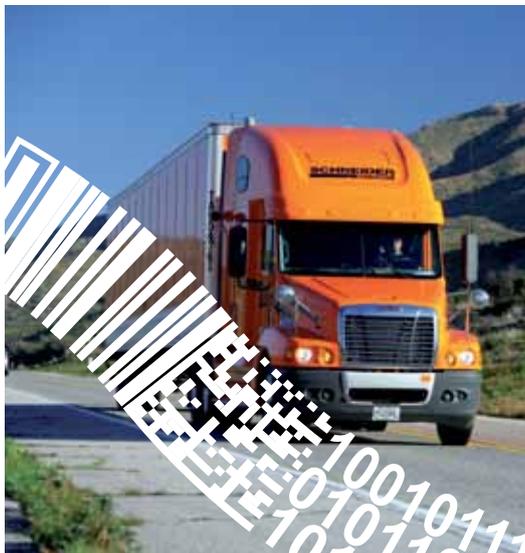




**GS1 STANDARDS  
IN TRANSPORT  
AND LOGISTICS**



## GS1 brings an integrated approach to T&L companies

■ ■ ■ ■ For more than 30 years, GS1 has been dedicated to the design and implementation of global standards for use in the supply chain. GS1 standards provide a framework that allows products, services, and information about them to move efficiently and securely for the benefit of businesses and the improvement of people's lives, everyday, everywhere. Our standards ensure effective exchanges between companies, and act as basic guidelines that facilitate interoperability and provide structure to many industries.



**Chris Adcock**

President, GS1 Industry Engagement  
President, EPCglobal Inc.

For many of the past three decades, GS1 was primarily focused on retailers and manufacturers in fast-moving consumer goods. In the last several years, however, our efforts to develop targeted solutions for other sectors have surged.

The work we have done for Transport and Logistics, which “connect” so many supply chains and industries, is one such example.

We are now working on a fully integrated approach specifically for T&L companies. We know that one size does not fit all in this sector, nor can one standard or one data carrier suit all needs.

At our Global Office and at more than 100 GS1 Member Organisations around the world, we are devoted to helping you find solutions to your business concerns, with the right mix of our global, neutral standards. Our integrated approach will mean we can meet your specific requirements, with an engagement that is holistic and business-focused rather than technology-focused.

Your supply chains are unique: so must be the solutions deployed across them; and solutions that leverage global standards will reduce cost, complexity and support interoperability across the industry.

In this brochure, I am pleased to share with you a variety of success stories from transportation and logistics teams who have successfully used the GS1 System of standards to face their challenges and meet their objectives.

Get started on your own success story! Learn more about GS1 Standards in the transportation and logistics sector at [www.gs1.org/transportlogistics](http://www.gs1.org/transportlogistics) and then contact the GS1 Member Organisation in your country ([www.gs1.org/contact](http://www.gs1.org/contact)) to find out how our standards can help your business.

# Transport and logistics in global supply chains

■ ■ ■ ■ In the past, logistics were a passive, cost-absorbing function in an enterprise. Today, logistics are highly strategic factor, capable of providing a unique competitive advantage and a variety of other benefits.

Indeed, a wide range of value-added transport and warehouse management applications and services are now associated with the movement of goods from the material supplier to the manufacturer to the end customer.

The use of state-of-the-art information technologies has also revolutionised the way logistics and transportation activities are organised and conducted.

Furthermore, transportation and logistics services have a vital role to play in making sustainability programmes possible and in helping companies meet their energy consumption goals. In fact, considerations about sustainability in the supply chain are playing an increasingly important role in the selection of suppliers and the awarding of contracts. Sustainability has become a business issue.

And in today's truly globalised supply chain, the importance of efficient logistics management and transportation optimisation is becoming all the more clear, because excellent communication and coordination is absolutely necessary as components and goods cross more and more borders than ever before.

For all of these reasons, the logistics and transportation aspects of supply chain management are quickly becoming some of the most complex business disciplines, requiring interactions within and between many of the traditional functional areas of a given firm and their partners, suppliers and customers. No longer can a company focus only on its own operations; long-term success is becoming increasingly dependent on the actions and decisions of enterprises both upstream and downstream.

In short, transport and logistics activities play a crucial role in the modern supply chain.

**With GS1's voluntary, user-designed standards, companies in the transportation and logistics sector can work more efficiently, more economically, more sustainably and more competitively**

## **The GS1 System of standards can help.**

With GS1 Standards as the basis for their operations and services, transportation and logistics teams can standardise information and automate its collection leaving them more time to focus on how to use information rather than how to get information. Concrete benefits can include improved efficiency, increased visibility of the flow of goods and shipments, more efficient handling and inventory management, increased security of distribution, faster operations, and smoother exchanges with Customs and other government agencies. With GS1's voluntary, user-designed standards, companies in the transportation and logistics sector can work more efficiently, more economically, more sustainably and more competitively.

Learn more about GS1 Standards in the transportation and logistics sector at [www.gs1.org/transportlogistics](http://www.gs1.org/transportlogistics)



**Ian Robertson**

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# The GS1 Standards used in the T&L sector

■ ■ ■ ■ The GS1 System of standards is well known and widely used in the Transport and Logistics sector.

## GS1 Identification Keys

The GS1 System of standards includes a range of **GS1 Identification Keys**, including the GTIN, GLN, SCCC, GRAI, GIAI, GSIN and GINC:

- The **Global Trade Item Number (GTIN)**, is used to uniquely identify trade items (products or services) that may be priced, or ordered, or invoiced at any point in any supply chain. Each trade item that is different from another is allocated its own separate GTIN. Their main function is to provide a way to uniquely identify any item so it can be looked up in a database – for example to get its price, record its sale, confirm its delivery or identify its order – and this, at any point during the supply chain and from any place in the world.
- The **Global Location Number (GLN)** is the GS1 ID Key used to identify locations and legal entities. Being able to identify locations with a unique number is vital to many business processes; GLNs are also the essential building block for a variety of EPC/RFID applications built around location. Using a GLN rather than a proprietary internal numbering system for locations gives a company significant advantages, because it provides a standardised way to uniquely identify entities and locations throughout the supply chain.
- The **Serial Shipping Container Code (SSCC)** is the GS1 ID Key used to identify individual logistic units. A logistic unit can be any combination of units put together in a carton, in a case, on a pallet or on a truck, where the specific unit load needs to be managed through the supply chain. The SSCC enables a unit to be tracked individually, providing benefits for order and delivery tracking and automated goods-receiving.

The serial reference component of the SSCC provides virtually unlimited number capacity, simplifying number allocation and guaranteeing unique identification.

- The **Global Returnable Asset Identifier (GRAI)** is used to identify returnable assets such as re-usable transport equipment like trays, crates, pallets or beer kegs that are used and then returned to be used again. The GRAI can be used simply for asset identification and tracking purposes,

or it can be as part of a hiring or rental system where two or more companies collaborate, as it allows enterprises to scan assets into and out of their businesses.

- The **Global Individual Asset Identifier (GIAI)** is used to identify fixed assets of any value within a company that need to be identified uniquely, for the transportation purposes this can include a truck, a trailer, a Unit Load Device (ULD), a container, a rail car, and so forth.

- The **Global Shipment Identification Number (GSIN)** is a number assigned by a seller (sender) of the goods. It provides a globally unique number that identifies a logical grouping of physical units travelling under one despatch advice and/or one bill of lading as part of a specific seller/buyer relationship:

from the consignor (seller) to the consignee (buyer). The GSIN fulfils the requirements of the Unique Consignment Reference (UCR) of the World Customs Organisation (WCO), which can be used by Customs authorities to identify shipments subject to import or export processes.

- The **Global Identification Number for Consignment (GINC)** identifies a logical grouping of goods (one or more physical entities) that has been consigned to a freight forwarder or carrier and is intended to be transported as a whole.



The GS1 ID Keys are complemented by **GS1 Application Identifiers** (GS1 AIs). GS1 AIs act like a code list of generic and simple data fields for use in multi-sector and international supply chain applications. Each GS1 AI consists of two or more digits and provides the definition, format and structure of the data field encoded in a GS1 Data Carrier. For example, a GS1 AI exists for each GS1 ID Key, allowing them to be encoded in GS1 BarCodes or EPC/RFID tags. Supplementary data is always associated with a GS1 ID Key and, while the intention is that the GS1 ID Key is used to find information about the identified object in a database, GS1 AIs exist for supplementary data that cannot be looked up in a database by reference to the GS1 ID key.

### GS1 Data Carriers

The GS1 System of standards also includes an entire portfolio of **data carriers**: different kinds of media that can hold GS1 ID Keys and application identifiers. The same content can, in fact, be encoded into different kinds of carriers, depending on what use will be made of it. GS1 Data Carriers include:

- **GS1 BarCodes**, data carriers which enable the rapid and unambiguous encoding of GTIN, GLN, SSCC and other GS1 Identification Keys and GS1 Application Identifiers (AIs). Using bar codes can greatly reduce human errors in data entry and processing.
- **EPC/RFID tags**, which use Radio-Frequency Identification technology to encode GS1 ID Keys in the **GS1 Electronic Product Code (EPC)**. The GS1 Identification Key of the item (e.g. SSCC, GRAI, etc) is stored



on a tag that is attached to the item and carries data programmed into a small computer chip and operates at a wide range of radio frequencies. The data relating to the item can then be used within and between organisations and trading partners in a secure manner via the **EPCglobal Network**.

### GS1 Communication Standards

Finally, the GS1 System of standards also comprises a set of **communication standards**:

- **GS1 eCom** Communication Standards, for example, uses GS1 Identification Keys such as GTIN, GLN and SSCC to unambiguously identify the products, services and parties involved in any electronic business transaction, enabling these exchanges to be smoothly compatible, between companies, and also across borders and across industries. GS1 eCom provides two complementary standards: GS1 EANCOM® and GS1 XML. They both allow a direct link between the physical flow of goods or services, and information related to them.
- **The GS1 Global Data Synchronisation Network, or GDSN®**, is another GS1 Communication Standard. The GDSN is built around the GS1 Global Registry®, GDSN-certified data pools, the GS1 Data Quality Framework and GS1 Global Product Classification, which when combined provide a powerful environment for secure and continuous synchronisation of accurate data.

### How GS1 standards are made

The Global Standards Management Process, or GSMP, is the pre-eminent worldwide collaborative forum where all GS1 standards are built and maintained by a community of our users. In 2008, the GSMP combined with the EPCglobal Joint Action Group (JAG) to become the single standards development forum for all of GS1 Standards, Solutions and Guidelines. This new GSMP is the engine that powers the entire GS1 System of Standards. It is an open and transparent process that brings together volunteers from all industries and from everywhere in the world to identify needs for standards, gather business requirements, document best practices, obtain consensus on solutions, and then develop and implement the resulting supply chain standards.

## Common business processes mean better communication

Unilever operates several dozen warehouse sites across Europe with a number of different logistics partners. In 2005, this global manufacturer of food, home care, and personal products identified an opportunity to improve the way it works with these partners, through the standardisation of processes, the establishment of electronic messaging and the consolidation of connectivity. DHL Supply Chain, the contract logistics arm of DHL, was one such partner.

The two companies worked together on what they named the Warehouse Communication Integration (WCI) project. WCI is a business process model based on common business processes and messages and connectivity standards. WCI was established as a pan-European effort, covering all Unilever product categories and focusing on DHL Supply Chain's core warehouse management activities. Warehouse management is the receipt, storage and preparation of products for customer delivery on the basis of orders, as well as the control and disposal of damaged or obsolete stock.

The WCI standard's objectives were to establish a limited set of 16 GS1 XML message-types that would be used to cover all the business requirements for warehousing for the Unilever business units involved, as well as to create a single point of connectivity between Unilever and DHL. Unilever and DHL also aimed to standardise best practice processes in the warehouses covered by the project.



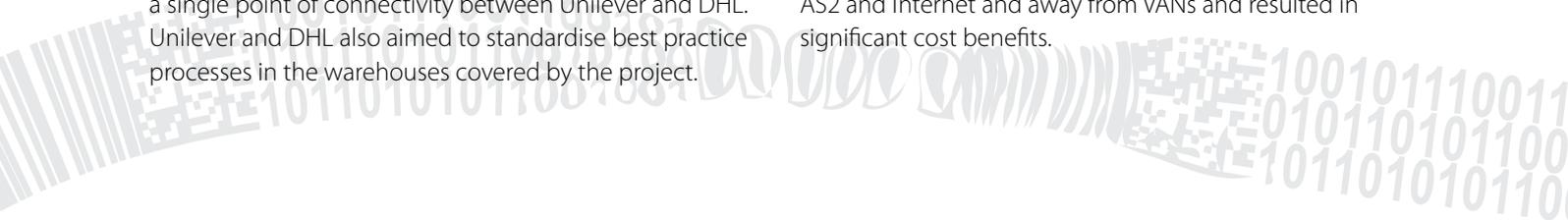
### Use of GS1 eCom XML messages have significantly streamlined communication between Unilever and DHL

Unilever and DHL jointly created strong central teams consisting of IT and business champions covering the United Kingdom, Spain, Belgium, Slovakia, Hungary,

Ireland and Portugal. The WCI project became an enabler of the Unilever SAP Consolidation programme and was also linked with DHL's Enterprise Systems Integration (ESI) developments, ensuring that the two partners were technically very well aligned from the start of the project.

By the end of 2008, WCI standards were deployed to DHL sites in UK, Spain, Hungary, Belgium and Slovakia, and standards will continue to be

deployed for new business and new warehousing sites servicing the participating Unilever business units into 2010 and beyond. Connectivity was moved toward AS2 and Internet and away from VANs and resulted in significant cost benefits.





WCI makes use of a wide range of GS1 standards, including GS1 Identification Keys such as GTIN, GLN, and SSCC; GS1 BarCode standards such as GS1-128 for labeling; and a wide range of GS1 eCom XML messages.

WCI covers all the processes that take place within the four

walls of a warehouse, with a set of 16 standard interfaces based on GS1 eCom XML standards. The messaging includes processes in master data management for items and locations; inbound goods such as upfront notification of receipt, receipts confirmation; outbound goods such as instruction to dispatch, delivery, re-pack and dispatch confirmation; inventory control and management such as stock reconciliation, sampling, scrapping, (quarantine) status, re-palletisation, pallet de-topping and physical movements.

Deployment of the WCI standard has significantly streamlined communication between Unilever and DHL, speeding up the launch of new business activities and sites. The creation of a single point of connectivity has also improved the reliability of connectivity to levels well above what was achievable before WCI. Best practices identified in individual warehouses are now more easily transferred to other sites.

The standardisation delivered by the WCI standard has also allowed Unilever to roll out its SAP consolidation programme more quickly. Because it is based on the concept of “develop once, deploy anywhere,” another major benefit has been the reduction of support and maintenance costs. The level of efficiency gains realised by the project partners through the initial WCI rollout has led to the decision to deploy the standard to the remaining sites, and to all new sites.

During the project, the partners found that the then-available versions of the GS1 XML messages did not always cover all the requirements of the warehouse processes they were operating. In some cases, extensions to the standard GS1 eCom XML messages had to be created. Unilever and DHL are both actively engaged in GS1 Transport and Logistics User Group and in particular,



in the eCom related developments for this sector.

The Logistics Interoperability Model (LIM) documented what processes happen in the warehouse management and transportation, so that further developments of the GS1 eCom standards are based on the LIM. This development is ongoing now, as part of the Logistics eCom work group, and both Unilever and DHL are working to ensure that the learnings from the WCI project are incorporated into future releases of GS1 XML standards.

For more information about Unilever, visit [www.unilever.com](http://www.unilever.com)

For more information about DHL Supply Chain, visit [www.dhl.com](http://www.dhl.com)



# Filled trucks benefit supply chains and the environment

According to the US National Private Truck Council, approximately 28 percent of trailers on American highways are currently running empty, resulting in high costs to companies, the economy and the environment.

Two progressive companies — Macy's Inc., one of the USA's premier retailers, and Schneider National, a leading provider of transportation and logistics — are among the more than 30 companies coming together with a new sense of urgency to solve this simultaneously age-old and yet contemporary issue. Together, Schneider and Macy's are realizing both financial and environmental gains by filling empty trailers with the help of the Empty Miles Service, an innovative online solution developed jointly by the Voluntary Interindustry Commerce Solutions Association (VICS), GS1 Canada and GS1 US.



VICS is a member driven, not-for-profit association that, for over 20 years, has created best practices and standards-based solutions for the consumer goods sector.

In 2009, VICS launched an Empty Miles Service to enable its members to match their empty trucks and trailers with other pre-qualified shippers or carriers that can use the space for shipments. This service brings together retailers, manufacturers and carriers to collaborate and mutually benefit. It is an industry-wide solution that directly supports companies' supply-chain optimization and sustainability strategies.

The ambitious Empty Miles Service is also an affiliate member of the United States Environmental Protection Agency (EPA) SmartWay Transport program and is aligned with the goals of the sustainable goods movement. Their strong relationship allows members



**Both Macy's and Schneider National agree that filling empty miles with the VICS service is good for the economy, good for the environment, and good for those companies that know how to leverage it effectively**

to link to EPA/SmartWay from the Empty Miles home page.

GS1 identification keys and barcoding standards, such as the Global Location Number (GLN), were used in the implementation of the Empty Miles Service to ensure that all participants are using a set of common identifiers, and thus can communicate clearly and efficiently.

As charter members, Macy's and Schneider National are using the Empty Miles Service to explore new ways of working together. In turn, they are contributing to their respective company's business goals while elevating the collective focus of the transportation industry to limit the impact of empty miles on the environment.

Traditionally, carriers and retailers try to fill backhaul opportunities by manually searching within their own company

and through their external network – a process that may take hours and too frequently produces poor results. With the Empty Miles Service, carriers or private fleets (lane publishers) can post their empty trucks/trailers and routes, while shippers (lane subscribers) can post their transportation needs. By participating in the Empty Miles

Service, each company has an opportunity to reach new trading partners' lanes or a carrier's lane. Using the Empty Miles search engine, companies with empty or partially empty trailers can search for partner companies to sell or utilize the next leg of a transportation lane.

From the beginning, Schneider national decided to really utilize the service instead just posting and waiting. They made a strategic decision to 'do it right' and feel their efforts are paying off. By working closely with Macy's, Schneider has been making headway in growing its average weekly loads.

Macy's is also an organization committed to improving sustainability at every level, and the Empty Miles Service created an opportunity for them to limit the environmental impact of their day-to-day business operations. One member of their logistics team qualified the project as a "win-win for Macy's and Mother Earth." Macy's is now challenging all of its suppliers to get involved with the Empty Miles Service.

Early in their Empty Miles partnership, Macy's and Schneider outlined



a cost structure and service-level requirements that made sense for both companies. Schneider has not only met but also exceeded Macy's expectations. The companies plan to continue to strengthen their carrier relationships and leverage the Empty Miles Program to further eliminate inefficiencies and drive their mutual commitment to sustainability.

In addition to giving back to the environment, the Empty Miles Service makes sense from a financial perspective. Trading partners can now share capacity in ways that help everyone benefit. The original carrier recovers revenue that would have been lost with an empty trailer and the shipper saves by shipping its freight at competitive rates. For example, by identifying round-trip opportunities where one lane is available, Macy's determines where it might be able to partner to fill empty trucks or trailers. The net impact: Macy's is eliminating trucks on the road for sustainability results and shipping at competitive market rates.



They are dedicated to this program and its ability to support operational efficiency, and as of Q4 2009, had seen an increase of 30 backhaul loads per week, or a projected 1,500 loads per year, at competitive market rates. For each lane opened, Macy's reduced annualised transportation costs, on average, by \$25,000. Schneider, meanwhile, had eliminated 61.65 tons of carbon dioxide, 147.24 tons of particulate matter and 1.47 tons of nitrous oxide while saving 5,554 gallons of diesel fuel and increasing dedicated backhaul revenue by 25 percent on accounts using the Empty Miles Service as of that same period. Eliminating 11 percent of its empty miles and moving 22 percent more backhaul freight with member shippers has led to significantly reduced costs. Based on improved capacity optimization, Schneider is able to offer more competitive rates and still offer the premium service that shippers expect

Both companies agree that filling empty miles with the VICS service is good for the economy, good for the environment, and healthy for those companies that know how to leverage it effectively.

For more information on Empty Miles program: [www.emptymiles.org](http://www.emptymiles.org)



## Electronic messaging increases efficiency

Health and hygiene products manufacturer Kimberly-Clark Australia and its carrier, Toll Logistics, worked together on a pilot designed to replace the flood of everyday paperwork that flows between them with electronic messaging. The results have been impressive: reconciliation errors were reduced, and those which remained were resolved in just two days (compared to an average of 10 days previously), while the time spent creating consignments and managing accounts receivable was slashed from four hours to 20 minutes.

The pilot was part of a wider industry project managed by GS1 Australia called “Demonstrating the Benefits of Adopting Global GS1 Standards by Logistics Service Providers in the Retail Grocery and General Merchandise Supply Chain”. This project was supported by an Information Technology Online (ITOL) grant from the Australian Department of Communications, Information Technology and the Arts.

Toll Logistics operates onsite at Kimberly-Clark’s South Australian facility, creating loads, dispatching vehicles and delivering stock directly to Kimberly-Clark customers. As an experienced GS1 System of standards user, Kimberly-Clark has well-developed order generation and e-messaging capabilities that connect it with many of its customers. Unfortunately, e-messaging had not been used by its logistics carriers, making creation of consignment notes and validation of recipient created tax invoices (RCTI) and remittances extremely labour intensive. Kimberly-Clark had been automatically generating forms for about seven years but, because carriers didn’t have the systems in place to accept the data, they were transmitted as faxes that had to be handled manually by the carriers.

At the same time, Toll Logistics had equally powerful systems in place, but the diverse requirements of hundreds

**Use of electronic messaging and data exchange increased efficiency by reducing the time it took to create consignments and managing accounts receivable from four hours to 20 minutes**

of its customers made integration a challenge. Many of Toll Logistics’s customers had the right foundations for e-messaging but used proprietary systems, which required customised interfaces. The implementation process was often long and complex.



Brought together by GS1 Australia under the umbrella of the industry project, both companies saw an opportunity to bridge the gap using the GS1 System, since the standardised approach would allow a single solution to be used across the industry, both in Australia and internationally.

For Kimberly-Clark, the adoption of the GS1 System was relatively simple, while Toll Logistics had to do some programming and messaging development. To ensure timeframes were met and to gain a swift appraisal of the likely benefits, the pair agreed to implement a two-phase proof of concept pilot.

Under phase one, Kimberly-Clark generated a special advance ship notice (ASN) suitable for carriers (“carrier ASN”) that contained all the data needed by the carrier to create and cost the consignment, including the route, vehicle type, number of drops, pallet footprints, et cetera.

A GS1 number was used as the ASN reference number and output as a bar code on printed shipment manifests. During the pilot phase, the XML-based ASN was emailed to Toll Logistics, although in full implementation a more secure and manageable communication protocol replaces email.

In phase two, the Toll Logistics driver ensured that each customer signed against the barcode to provide proof of delivery. At the end of each day, the Toll Logistics driver presented the completed shipment manifests to Kimberly-Clark, which then scanned the signed-off bar codes, matching each drop-off to the details already on file. Automatically, the Kimberly-Clark system generated an RCTI that, once validated by Toll Logistics, became the basis for payment by electronic funds transfer, confirmed with an electronic remittance advice. In effect, the process is driven entirely by the client and simply verified along the way by the carrier.



A first significant benefit of this unconventional approach is that the information is of much higher quality than in the past. Kimberly-Clark's data comes straight from its production and distribution centres. Because e-messaging doesn't rely on the typing accuracy of the administration team or the careful filing of paperwork, there is less data loss, and as a result less revenue loss and fewer errors.



A second major benefit is improved efficiency. In the traditional model, Kimberly-Clark clerks at every site checked off carrier invoices line by line, information which originated with Kimberly-Clark and had then been given to the carrier, who then returned it as part of their invoice, wasting time and effort.

Toll Logistics sees a competitive advantage in data transparency, as well. Having all the necessary information before providing the service allows the carrier to add value by planning, so the right resources are in the right place at the right time.



The pilot project's success has encouraged both Kimberly-Clark and Toll Logistics to progress towards full implementation. Kimberly-Clark has polled its top ten carriers to learn more about their information flows and has held meetings with them to discuss the benefits of e-messaging. Toll Logistics is committed to full implementation and plans to "keep on trucking" with GS1 standards.

For more information about GS1 Australia, see [www.gs1au.org](http://www.gs1au.org)

For more information about Kimberly-Clark Australia, see [www.kca.com.au](http://www.kca.com.au)

For more information about Toll Logistics Australia, see [www.toll.com.au](http://www.toll.com.au)



# Labeling standard increases transport operations reliability

GEFCO is one of the leading transport and logistics companies in Europe. With a turnover of €3.5 billion in 2008, GEFCO has grown at a constant 40% per year since 1998, and currently has over 10,000 employees in 27 countries across four continents.

As a solutions architect and integrator, GEFCO is responsible for engineering, operating and implementing logistics solutions covering part or all of the supply chain for a number of strategic industries such as automotive, consumer goods, electronics, aeronautic and more.

A logistics integrator such as GEFCO guarantees tracking of goods along the whole supply chain, working closely with suppliers, manufacturers and retailers. The use of standards for labeling, messages and barcoding enables GEFCO to synchronise information exchanges between these different players and to secure information and transaction flows.

In 2009 the GEFCO group decided to implement the GS1 SSCC Identification Key for all of its transport activities in Europe. The implementation of this GS1 standard has been carefully adapted to the requirements of more than 2,000 GEFCO customers who use it as they ship over 100,000 parcels every day.

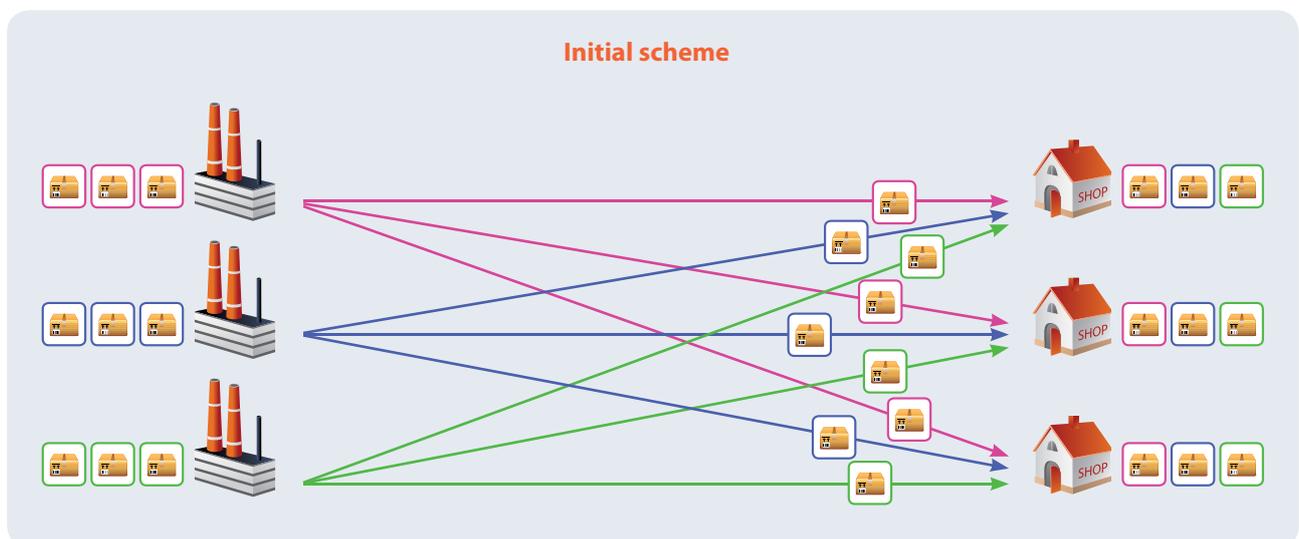
Building on the GS1 System of standards, GEFCO teams develop tailor-made solutions for customers, including:

- Modification and update of tools and client interfaces (EDI, computer systems, barcode scanners)
- Analysis of labeling system impacts on existing EDI messages and the systematic migration to GS1 eCom standards
- Communication and training of all internal and external logistics teams



An example of such an implementation was driven by the need for increased reliability of cosmetic goods distribution for one of the largest specialised distribution networks in Spain. Two large retailers, who had entered a partnership to launch a chain of retail stores in Spain, wanted to increase the performance of cosmetic goods distribution to their 84 retail outlets both in terms of quantity (with delivery of approximately 4,000 pallets per year) and quality, in order to improve their brand image.

The previous product distribution solution consisted of direct delivery from the suppliers to the retail outlets, utilising a multi-standard labeling system; this method suffered from high transport costs and excess complexity in flows and product tracking management.



## The solution has increased the quality of service and the level of customer satisfaction

GEFCO's solution optimised both physical and information flows by better taking into account the needs of both suppliers and retail stores. The solution, based on the implementation of GS1 labeling and EDI standards for all suppliers and retail outlets, put in place a Flows Manager responsible for the follow-up of physical and information flows and a solution for consolidation supplier flows.

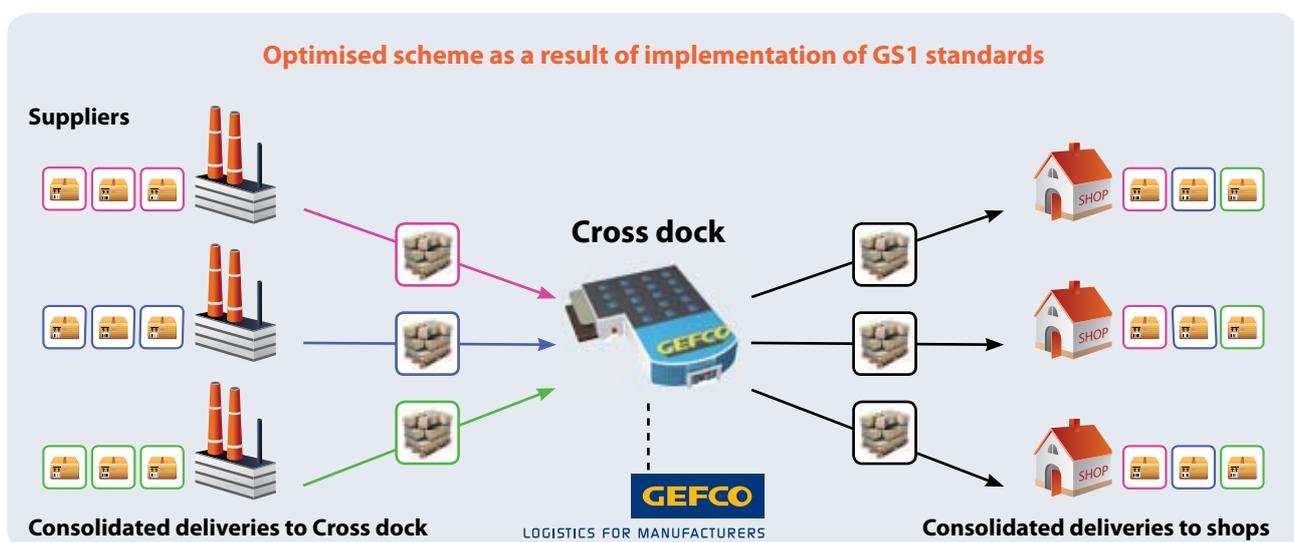
Under the new system, parcels are delivered by a requested date based on retail outlet orders to GEFCO's Madrid platform. At the same time, GEFCO receives a Receipt of Despatch Advice (DESADV) linked to each delivery. For those goods controlled by GEFCO, there is also a transmission of Reception Advice (RECADV) to the stores that describes the contents of each parcel. The system enables multi-supplier pallet consolidation for each retailer and transmission of a consolidated Despatch Advice (DESADV) for every truck departure. Each advice lists all the articles, orders and parcel references for each retail outlet. Pallets are then delivered to each individual retailer in specific time slots using dedicated means. In addition to that system, a client portal (web) has been implemented to track orders and messages in real time.

The new system has delivered significant benefits, including:

- Detailed visibility of shipped goods for each supplier and store
- Guaranteed follow up and tracking of all shipments by pallet and parcel
- Secured retail deliveries in quantity and quality
  - Reduced risk of loss or breakages
  - Product integrity and brand image is guaranteed to point-of-sale (close to 100%)
  - Respect of delivery time slots (close to 100%)
- Increased quality of service and client satisfaction
- Optimisation of physical/information flows and associated logistics costs
  - Supplier flows synchronised and consolidated
  - Message harmonisation between all parties in the supply chain
  - Reduced receipt, control and handling operations
- Sustainable development
  - Reduced CO<sup>2</sup> emissions (pooling and increased reliability of supplier flows)
  - Over-labeling has now been eliminated

Based on the demonstrated success of the Spanish solution, GEFCO will be working to implement GS1 standards with other European clients in order to help them to benefit from deeper integration in the supply chain and increased reliability of transport operations and tracking.

For more information, visit [www.gefco.net/en](http://www.gefco.net/en)



## Access to information benefits all processes and parties

■ ■ ■ ■ Dachser is an international freight and logistics service provider with 18,100 employees worldwide and an annual turnover of €3.6 bn Euro. Their business model rests on three pillars: European Logistics, Air & Sea Logistics and Food Logistics. At their 305 locations, they move about 43.3 million consignments weighing a total of 29.1 million tons. A high level of IT-expertise, the worldwide integration of logistics services and the state-of-the-art infrastructure are the strengths of Dachser.

The GS1 Serial Shipping Container Code (SSCC) plays a crucial role in all Dachser processes along the whole supply chain. This GS1 Identification Key has become an indispensable tool for all participants in warehousing and transport processes. In 1994, Dachser became the first logistics provider worldwide to establish the comprehensive usage of the GS1 SSCC across the entire logistics chain.

Dachser deployed MDE (Mobile Data Capture) devices and pen-keys (mobile computers) as a logical part of a programme of automation and standardisation of logistics and information processes. There are now more than 9,100 of these devices in use at Dachser. This figure explains the great importance of the barcode: indeed, barcodes support all the logistical processes along the entire supply chain and are essential for all of Dachser's work.

Data input is done using the internationally recognised GS1-128 BarCode Symbology and the GS1 SSCC Identification Key. The GS1 GTIN also enables absolute control of commissioning in the warehouse. The GTIN is a unique key used to identify individual articles.

For transport, the SSCC is used by the sender. It acts as the basis for the use of automated warehouse management systems and simplifies control and accounting processes between service providers and customers. The recipient of the SSCC can, in turn, easily control and manage

**DACHSER**  
Intelligent Logistics



the incoming storage processes efficiently. At Dachser the SSCC is the basis for seamless tracking and tracing, and also meets the legal requirements for identification and traceability. In this way, all parties benefit from the consistent use of the SSCC.



Beginning right from order entry, the SSCC becomes a unique reference on the multi-language label. From the moment a shipment is dispatched, all stakeholders can retrieve its latest status simply by keying the SSCC into the Dachser eLogistics portal without needing to register or login. Registered users, however, can also find detailed information on all shipments, and access archived delivery receipts and delivery notes. If a problem occurs (for example improper packaging), the customer can even access the photo documentation stored in the portal and immediately take action.



The centre of all information flows is the EDI Center developed and operated by Dachser themselves. It is the central communication platform between Dachser and their business partners that enables connection and optimisation of business processes.

Completely independent of any ERP systems of the participants, standardised or customized interfaces enable quick and easy integration of business processes. In this way, already more than 6,000 business partners using EDI are linked to Dachser.

Avoiding application errors while optimising potential benefit is also the goal of the advanced shipping notice (DESADV) used in combination with the SSCC. By providing advanced shipping notice the picking and relocating processes are optimised; thus minimising waiting times, cycle times and error rates. In particular, the rapid and efficient response to false deliveries can help to ward off economic damage.



Quick reaction is also made possible by a supply chain event management application called Active Report, which has been developed in-house by Dachser. This application proactively checks shipment data for problems and automatically sends messages if certain dates are exceeded or if any pre-defined errors occur. Thus, an increase in efficiency throughout the value chain is achieved by the automating of manual processes.

The quality of logistics depends on the degree of process responsibility and dominance, and ultimately proves itself in quantity: Dachser daily manages over 100,000 deliveries and about 1.2 million picks in the warehouse. Dachser achieves process optimisation by a carefully thought-out quality management and high data quality. Another important success driver for optimised processes is real-time data transmission across systems based on seamless identification, interactive scanning and picking, as well as standardised deliveries and plausibility checks at the transport unit level. Dachser uses the SSCC at all interfaces for identification of transport units.

All in all, Dachser feels strongly that the SSCC provides a vital contribution to the logistics sector in the optimisation of all processes within the value chain. It offers high benefits for service providers, customers and logisticians in equal measure.

For more information about Dachser, visit [www.dachser.com](http://www.dachser.com)

# Taking logistics to higher levels with global standards

Bring Frigoscandia is a logistics company in the Bring group, focusing on temperature controlled logistics. Bring Frigoscandia creates competitive advantages for its customers through flexible and effective logistics solutions for food items. Its distribution network is adapted for food items that cover all the markets that are important for the Nordic food industry. Bring Frigoscandia's vision is to be the food industry's first choice for logistics.

To improve and simplify the understanding of their customers' information flow, Bring Frigoscandia has chosen the GS1 System of standards as the basis for all information exchange, whatever the means of communication. In close cooperation with their customers, Bring uses GS1 guidelines for the numbering of identities, label layouts, and barcode structures as well as for Electronic Data Interchange.

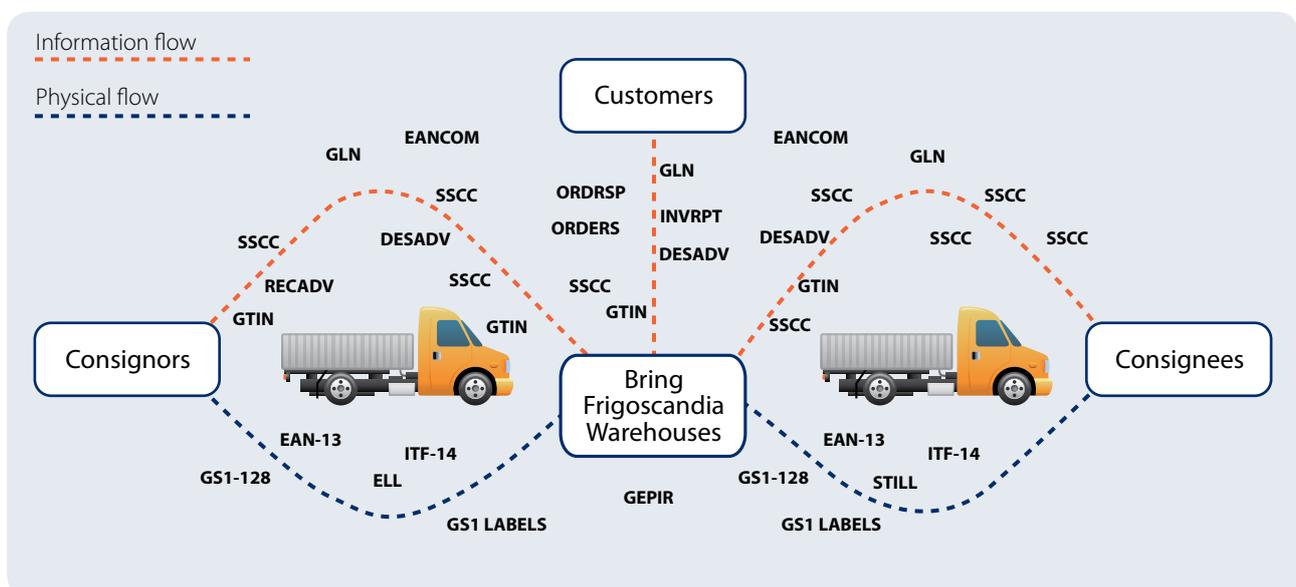
Bring Frigoscandia uses the GS1 GTIN to uniquely identify items in the different AIDC and EDI processes that link them with their customers as well as for internal communication purposes. By using the GTIN as a core identifier, items can easily be recognized by all partners in the supply chain. Another GS1 Identification Key, the SSCC, is used to uniquely identify all logistic units for both internal and external track and tracing. Every time a unit is handled



## The use of GS1 standards in Bring Frigoscandia's logistics processes complies with European food traceability regulations

at a Bring Frigoscandia site, its SSCC is scanned and logged in the company's track and trace systems. Finally, the GLN is used for identifying both consignors and consignees and for identifying partners in the EDI communication flow. These GS1 Identification Keys are the foundation on which all other GS1-based applications are built. Bring Frigoscandia believes in the reliability and integrity of the GS1 System and feels strongly that more companies should deploy it in their supply chain processes.

Bring Frigoscandia also uses the GEPIR system to identify and recognize partners and their GLNs. By using SSCC and GTIN in combination with GEPIR, Bring Frigoscandia can identify who has sent a particular SSCC and who has supplied the item.



The GS1 standard label layouts contain standard GS1 data elements both in text and barcoded formats. This constitutes the basis for all other communication flows and for the automation on Bring Frigoscandia's sites. The barcoded information on labels enables efficient data capture both at receipt and delivery. If goods are delivered to any of sites without compliant GS1 labelling, Bring Frigoscandia re-labels them according to GS1 guidelines.

At Bring Frigoscandia, all Electronic Data Interchange is performed according to the GS1 eCom guidelines using a number of standard messages. Before delivery to any of Bring Frigoscandia's plants, customers send a despatch advice (DESADV) on item level (if the items are purchased) or despatch advice on SSCC level (if delivery is sent from their own production sites).

After automatic controlling and counting procedures enabled by data capture through the bar codes on the GS1 standard labels, a receipt advice (RECADV) on SSCC level is sent as a receipt confirmation, including possible delivery deviations for each consignment.

Inventory reports (INVRPT) are sent by Bring Frigoscandia to customers via EDI on a regular basis, which enables automatic comparisons and tuning of stock balances in customer systems.

Bring Frigoscandia's customers send selected portions of their customer orders (ORDERS or INSDES) to the current warehouse, where an automatic allocation of items is made. Before shipping the items, each unit is marked with a GS1 STILL label showing the correct routing and address information together with the SSCC. The scanning of GS1-128 bar codes containing the SSCC guarantees that the right item is routed to the right consignee. Shipment is confirmed to customers by a despatch advice message (DESADV) including possible delivery deviations. At the same time a despatch advice will be sent to the consignee where the AIDC procedures based on the GS1 System restarts.



The use of GS1 standards in Bring Frigoscandia's logistics processes complies with European food traceability regulations. Government food authorities can instantly be provided with detailed information about the origin and destination of any item. The same information, as well as any other relevant data, is also available to Bring Frigoscandia customers through the networking systems that Bring Frigoscandia provides. In these visibility systems, also all other relevant data are included.

Bring Frigoscandia is a long-time user of bar codes as carriers for core information on different levels in the supply chain. However, market requirements continue to evolve, and new technologies – such as RFID – are required to further increase efficiency. When the market develops to a point where implementation of the RFID solutions

across the supply chain is required, then GS1 labels will be complemented with invisible RFID tags containing the same data as the barcodes. This will enable the automation systems along the supply chain to read barcodes, RFID, or both, depending on the local environment and other circumstances. Bring Frigoscandia will work closely with GS1 to further develop industry guidelines for the use of RFID in the supply chain.

At Bring Frigoscandia, automatic handling has been raised to higher levels by using AIDC based on the GS1 System of standards. The company feels that their efforts to connect the different GS1 tools to a common data language integrated into their systems has resulted in an offer that allows them to provide a highly efficient logistic handling on their sites. Using the GS1 System in this way has been a major factor enabling Bring Frigoscandia to achieve its vision.

For more information about Bring Frigoscandia, visit [www.bring.com/frigoscandia](http://www.bring.com/frigoscandia)

# EPC/RFID brings visibility and better quality data

■ ■ ■ ■ Korean multinational LG selected logistics operator Dinet as its third-party logistics provider in Peru because Dinet is one of the largest logistics operators in the country, and because Dinet's main operations are based in the Lima metropolitan area. The LG distribution operation is now one of the most extensive that Dinet operates, providing full warehousing services for LG products. Although it is a largely manual operation, the KPIs for the LG operation have consistently been among the best of all Dinet's customer operations.

Despite these good results, Dinet is always looking for new technologies, consistently adopts global best practices, and is constantly searching for ways to improve service levels through improved supply chain visibility and the use of better traceability. As part of this approach, Dinet acquired a GPS solution from solution provider Wisetrack to empower their SCM activities and to further improve the visibility of their units. Wisetrack not only brings a traditional GPS solution, but it is effectively a transport management system embedded in a permanent control application.

In this context, and in collaboration with GS1 Peru, Dinet started a project to implement an RFID-based track and trace solution for the LG operation. GS1 Peru was the chosen partner because of the experience and knowledge they had gained while working on SCM consultancy and other EPC/RFID projects. GS1 Peru is positioned as an enabler providing access, knowledge, and technology and helping to improve quality and innovation in new and improved processes based on the GS1 System of standards.

The high-level objective of the project was not only to improve the quality of the information coming from Wisetrack, but also to gain all the possible benefits from the application of EPC technology to the LG operation. More specifically, the project objectives included:

## The ROI analysis showed that investments paid for themselves within 3 months

- Assessment of the suitability of EPC/RFID technology to the LG Distribution operation
- Selection of the most appropriate EPC/RFID tag technology
- Integration of information from GS1 EPCglobal and the Wisetrack GPS solution
- Elimination of unnecessary processes in order to reduce lead times in the warehouse
- A positive return on investment (ROI), taking into account the improved service levels, the operational benefits, and the required up-front investment



Besides LG, Dinet and GS1 Peru, other participants in the project included:

- Wisetrack Peru, the provider of the GPS solution and the information systems platform
- UPM Raflatac, the supplier of EPC/RFID tags
- Impinj, EPC supplier and technical support provider
- Motorola, provider of the hand held EPC/RFID solution

The project scope was to collect all the information about the activities in the warehouse, from the requirement picking to the delivery of the goods. The project was divided into two pilot phases, aligned with the objectives, with a third phase for the deployment of the complete solution.

In the first phase, focused on evaluating the technical and operational feasibility of the technology, the project scope was to prepare the picking of 200 items and their delivery to two different LG customer warehouses. The objective was to confirm the technical integration between EPC and the Wisetrack solution in a "live" process.

This objective was achieved with the required performance quality, using the GS1 EPC standard and GS1 GLN Identification Keys with EDI to create an interchange platform between LG and Dinet.



To confirm the results of the first phase, the second phase implemented five different shipping notices, with the objective to measure the process activities, the time saved, and the labor force requirements. Since the technical feasibility had been completed in phase one, the work focused on the financial framework to support the ROI calculations and to determine the fit with the ROI tools designed by the Massachusetts Institute of Technology (MIT), the Stanford Global Supply Chain Management Forum and GS1 EPCglobal.

The operational assumptions for the ROI analysis were that:

- Products would arrive with EPC/RFID tags attached at the factory, with the serial number already encoded in the tag using a GS1 S-GTIN Identification Key
- LG's customers might have an RFID solution in place to receive the goods, but if not, a mobile handheld reader could be used
- The tags would be encoded with GS1 EPC identifiers

After the data was compiled, the ROI analysis showed a three-month payback period for an initial investment (primarily for the RFID equipment) of USD \$22,500, generating approximate cost savings of USD \$9,800 per month.

Since the scope of the project also includes the delivery of goods from Dinet's warehouse to LG's customers, many additional benefits were identified at this level, including:

- Elimination of serial number errors
- Significantly reduced customer rejection of serial number errors, leading to the elimination of lost sales, return transport costs, delays, and credit notes as well as warehouse space savings
- Reduced time spent on serial number capture
- Warehouse space savings for dispatch serial number capture



- Reduced time spent on unit counting and merchandising review
- Improved disposition of field transportation units
- Increased quality in preparation of dispatched goods
- Improved visibility and traceability of items (by serial number) by each Shipping Notice on route
- Enabling of on-line loaded and unloaded goods confirmation
- Reduced time cycles for distribution and payment documents
- Improved control of transportation units
- Document visibility in real time, for each delivery point
- Enabling of on-line, cross-system Proof of Delivery

After these very satisfactory first results, the next steps include undertaking a complete financial analysis for RFID implementation at LG points of sale and a feasibility study to implement integrated RFID/GPS technology in Dinet's trucks.

For more information about LG, visit [www.lg.com](http://www.lg.com)

For more information about Dinet, visit [www.dinet.com.pe](http://www.dinet.com.pe)

For more information about GS1 Peru, visit [www.gs1pe.org](http://www.gs1pe.org)



# Improved efficiencies with EPC Gen2

Exel, a wholly owned entity of Deutsche Post DHL, the world's leading logistics group, is the North American leader in contract logistics, providing a variety of integrated, value-added and specialist services to a wide range of industries including retail, consumer, technology, automotive, healthcare, chemical and industrial.



Exel is a long-time active member of the GS1 Transport & Logistics action groups. After having run a number of RFID

pilots in various facilities around North America, Exel saw the opportunity to significantly improve efficiencies in its container handling facilities through the integration of EPC Gen2 RFID tags into an application for yard management. Working closely with RFID equipment provider Motorola and solutions provider PINC Solutions, Exel specified requirements for a vendor-hosted Yard Management System (YMS) to handle more than 300 trailer spaces at a Southern California Trans-Load Facility.

Implementation of the project took less than four months. The system provides real-time yard visibility for the facility, thanks to one PINC Gate Management module at the entrance, and three PINC Tracker modules for the yard trucks that move trailers and containers around the site. The PINC solution offers quick and easy access to high-level information, an appointment scheduling capability that reduces data entry upon asset arrival, and highly accurate trailer location using a combination of GPS and EPCglobal C1G2 RFID. The use of passive RFID technology has significantly reduced costs, and the system performs yard counts in background, provides email notification of pre-determined events, and all documents are digitally stored and searchable. Users have found the system easy to learn and easy to use.

When a trailer arrives at the facility, a temporary EPC/RFID asset tag is assigned to the container at the gate and matched with identifiers (i.e. SCAC code and trailer

**The system has doubled gate throughput, and has significantly improved yard visibility**

number) on the container. The fleet trailer and shipment information are thus associated with a specific RFID tag number during the check-in process. The trailer is then moved directly to the assigned parking spot or zone or to a dock door. Yard trucks equipped with RFID readers and GPS receivers keep track of the location of yard assets and shipments while they are in the yard. EPC/RFID tags are provided on a temporary basis for third party trailers. However, the system is also capable of using permanently mounted EPC/RFID tags to give visibility to dedicated fleet assets and associated shipments.



The system has doubled gate throughput, and has significantly increased yard visibility. It has also eliminated manual yard checks and most documentation, while providing improved operational control and tracking of assets. This in turn has led to improved productivity and has assisted in the complete prevention of penalties associated with yard delays and loss of transportation asset visibility. Administrative effort has been reduced by one third, leading to lower headcount requirements. Since the drivers spend less time waiting, they can spend more time driving and waste less fuel. Improved data accuracy and communications have enabled fact-based decision-making and issue resolution.

Looking ahead, Exel will be able to extend visibility of assets to its customers using this unique YMS solution, and will consider integrating the YMS with its warehouse management systems. Exel is also reviewing opportunities to use permanently mounted EPC/RFID tags on fleet trailers in order to further increase gate efficiencies and move towards a multi-enterprise system, providing a platform for collaborative supply chain practices.

More information about Exel at [www.exel.com](http://www.exel.com)

## Party identification enhances efforts made by Customs

■ ■ ■ ■ GS1 Hungary and the Hungarian Ministry of Environmental Protection and Water first began working together in 2002, a cooperation that resulted in GS1 Hungary developing an Electronic Hungarian Waste Management System (e-HWM system) for the Ministry. The e-HWM is an IT system that uses the GS1 GLN to identify legal entities and the GS1 GTIN to identify specific products (e.g. reusable packaging) in the field of waste management and environmental product tax regulation. In a similar effort, in 2008 GS1 Hungary launched a GLN database for Hungarian companies working with this type of legislation.

Seeing the many benefits, in 2008 Hungarian Customs Authority also began to use the e-HWM in alignment with the Ministry. It was at about this same time that GS1 Hungary and the Hungarian Customs Authority started discussions on possible new areas of cooperation, with the objective to sign a bilateral agreement to extend their professional cooperation. The talks were fruitful, and the agreement was signed in March 2009. According to its terms, GS1 Hungary will provide ongoing support for the work of the Hungarian Customs Authority via presentations, education efforts and the implementation of GS1 standards wherever needed. Furthermore, where Hungarian laws and regulations have already mandated the use of GS1 standards, GS1 Hungary will ensure ongoing consultation and support for the Customs Authority. Detailed rules of collaboration are defined in separate contracts between the parties.

Following the new agreement, GS1 Hungary prepared expert studies on the following subjects:

- The potential benefits of the GS1 GLN-based position/location identification system in Hungarian Customs Authority processes, especially when used to support the supervisory processes with mobile communication tools, and to assess the benefits of a synchronised usage of GPS and mobile communication technologies
- The introduction and implementation of GS1 DataMatrix symbols on the tax stamps for Hungarian alcohol and tobacco products subject to excise

**At the end of 2009,  
there were close to 40,000 users  
of the GS1 GLN in Hungary**

- The potential benefits of the introduction of uniform document identification in Customs Authority processes based on the GS1 GDTI (Global Document Type Identifier)

The studies demonstrated that solutions based on GS1 standards could further support and facilitate the Hungarian Customs Authority's daily working processes.

The result is a new level of cooperation between GS1 Hungary and the Excise Directory of the Customs Authority, which was formalised in August of 2009 with the signature of a separate agreement. This new cooperation focuses on tracking and tracing excise goods, especially alcoholic beverages. The Hungarian Customs Authority now plans to legally require that all alcoholic beverages carry an ECC 200 Data Matrix symbol, as named in the ISO/IEC 16022 standard, for tax stamp purposes. GS1 Hungary is holding other discussions with Customs in order to explain the benefits of using the GS1 Data Matrix, which can be very efficiently linked with the GS1 BarCodes already on alcoholic products.

Thanks to the cooperation with the Ministry between 2003 and 2007, there were more than 20,000 new GLN users in Hungary, above and beyond the 7500 users of the full GS1 System. Then, because of the entry of the Hungarian Customs Authority into the waste management area, there were 19,000 new GLN registrations in 2008 and 2009, bringing the total number of Hungarian GLN users at the end of 2009 to close to 40,000.

Further cooperation between GS1 Hungary and the Hungarian Customs Authority should generate significant benefits for both parties, including the implementation of new solutions based on global GS1 standards, further improved efficiency and visibility in daily working processes, and the introduction of Hungarian GLN users to the benefits of the rest of the GS1 System.

For more information, visit [www.gs1hu.org](http://www.gs1hu.org)



# Standards for fleet management improve productivity

## GS1 Standards can play a useful role in fleet management systems

In 2009, GS1 Spain launched a working group to define the business requirements for using the GS1 System of standards to make fleet management more efficient and more effective. Companies like El Corte Inglés, DIA (Carrefour group), Mercadona, DHL, Eroski, Easytech, Campofrío and Sotec took part in this collaborative effort.

Fleet management is a function which allows companies that rely on transportation in their business to remove – or at least greatly minimize – the risks associated with owning and maintaining vehicles. Proper fleet management can optimize investments, improve efficiency and productivity, reduce a company's overall transportation costs, provide 100% compliance with government legislation, ensure cold-chain management for chilled or frozen food and much more.



The most basic component in all fleet management systems is vehicle tracking. This is usually GPS-based, but in some cases can instead be done using a cellular network triangulation platform. Once a given vehicle's location, direction and speed are determined from the GPS or cellular input, additional tracking capabilities transmit other bits of information to a Fleet Management software application, such as temperature, door status, cooling equipment on/off, engine on/off, weight et cetera. Data can be transmitted either terrestrially or by satellite. Advanced fleet management systems can also connect to

the vehicle's onboard computer and gather data such as mileage and fuel consumption from it for use in a global statistical-analysis scheme.

All of this data gathering and analysis can be managed and run by either an in-house fleet-management department or by an outsourced fleet-management provider.

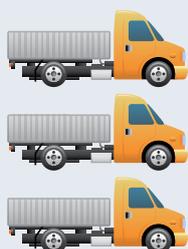
GS1 standards could have a significantly beneficial role to play in fleet management systems like the ones described here. The GS1 Spain working group successfully identified a set of requirements and transmitted them to the eCom Logistics Standards Work Group within the GS1 Global Standards Management Process. The requirements will be included in the Business Requirement Analysis document for the GS1 eCom Transport Status Notification message. The result will be a standard that allows for the exchange of information between all the trading partners based on GS1 eCom XML messages and using the GS1 GLN to identify the parties involved. Implementation among GS1 Spain members companies will likely occur in 2010, as soon as the GS1 XML messages are available.

For more information about GS1 Spain, visit [www.gs1es.org](http://www.gs1es.org)



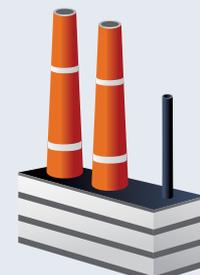
### Fleet Track Information consolidator

- Logistic Services Provider
- Truck tracking service provider



### Fleet Track Information Manager

- Logistic Services Client
- Transport compagny



### TruckStatus



## National user groups mean efficiency and cost savings

■ ■ ■ ■ Sweden is a logistical challenge: 1500 kilometers from north to south, but only 9 million people. This means that transportation costs can become quite a large portion of the total cost of products sold in distant parts of the country. Not surprisingly, Sweden has a long tradition of finding efficient and cost-effective logistics solutions.

Indeed, there have been a number of national standards initiatives in the Swedish logistics industry since the early nineties: The Pharos initiative, for example, created a solution for transport management. Pharos was managed by a national industry organisation, but since GS1 was recognised and valued by the industry, some GS1 ID Keys, primarily GS1 SSCC, were recommended (but not mandated) as identifiers. The GS1 eCom solution was largely compatible with EANCOM, but not completely compliant.



The Standard Transport Label (STE) was initiated with the support of GS1 by logistics companies that were seeking to benefit from barcode technology. The STE is now widely used for transport in the Nordic countries. SSCC was not mandated when STE was created, but has proven to be robust and popular and is now used on more than 75% of all goods shipped within Sweden, with an estimated 35,000 STE printers installed in the country.

A warehousing eCom standard based on EANCOM was developed by GS1 Sweden and the Swedish logistics user group, and has been implemented by a wide range of users.

A number of international and local companies, industry organisations and public authorities have been involved in GS1 Sweden's user groups over the years, and the user participation at national level is very active.

Supplier participants include Arla Foods (dairy), Procordia (packaged goods), Unilever (packaged goods), and Scan (meat and derivatives). Retailers involved in the user group include Axfood, Coop, and ICA. Transport and Logistics participants include Bring Frigoscandia, DHL,

### The GS1 SSCC is now used on more than 75% of all goods shipped within Sweden

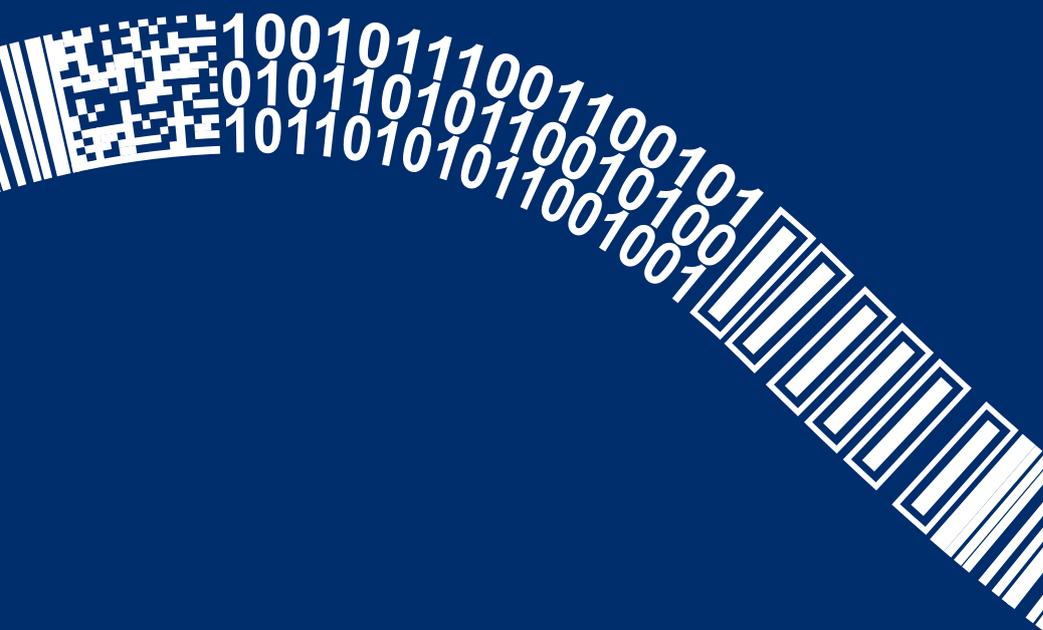
DSV, Green Cargo, Schenker, Stena Line, Swedish Customs, and Swedish Post. The Swedish Rail Administration has launched an EPC pilot for its freight operations.

A few basic guiding principles are used in all Swedish national user groups: Emphasis is made on the benefits of combining GS1 keys, barcodes, eCom, GDS, GEPIR and other GS1 solutions. The focus is on business requirements with a process-oriented approach. Technical solutions (EDI mappings etc) are specified by GS1 and then approved by the users. GS1 staff act as "consultants" of the user groups and not as meeting organizers, and all decisions are based on a consensus of participants. Swedish users are encouraged to participate in GS1 global development efforts, although often it is GS1 Sweden staff who represent their interests. An incremental approach to adopting GS1 standards is recommended, instead of trying to adopt the entire GS1 System at once.

Swedish Transport and Logistics users have been active in global GS1 initiatives, such as Transcore and the Logistics Forum, for many years. The desire to ensure that Swedish national solutions remain compatible with global standards has created an interest to participate in the GSMP work groups, as well as in the recently launched GS1 Transport & Logistics Industry Engagement Program. Bringing more than 15 years of experience in the implementation of GS1 standards in Transport and Logistics processes, the Swedish user community is eager to share its experiences in GS1's global development efforts.

GS1 Sweden's website is at [www.gs1.se/en](http://www.gs1.se/en)





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