



An Inebriant Journey: Global Wine Supply Chain Visibility via EPCIS Network

With increasing popularity of wine drinking and appreciation, the world's wine market changed dramatically. In 2010, Hong Kong recorded over US\$850 millions in wine imports and became the world's largest wine auction center (Figure 1). As one of the world's largest wine producers, Italy wine production maintained steadily with over 4 billion liters in past 5 years (Figure 2). Riding on the robust activities of wine trade across the world (Figure 3), it is indispensable to have visibility throughout the supply chain to improve operation efficiency and sustain product quality.

Benefits by GS1 Standard in Wine Industry

Use of GS1 Standard

1. GS1 Global Traceability Standards (GTS)

Using GTIN on BarCode at SKU level, SGTIN on EPC/RFID standard at item and case level, also SSCC on EPC/RFID standard at pallet level.

2. EPCIS Traceability Standard

Real-time visibility of goods, information flow and appends with sensor information from-source-to-store on EPCIS network.

3. Sensor-based EPC/RFID Standard

Real-time data of temperature, humidity, time & location capturing and sharing solution via EPCIS network.



Key Benefits in Wine Value Chain

1. Wine Producer

- Protect brand reputation
- Enhance relationship with foreign buyers by providing supplementary information about wine storage and transportation

2. Importer/Distributor

- Optimize product flow visibility
- Prevent unauthorized diversion

3. Retailer

- Product quality assurance by real-time temperature & humidity monitoring
- Gain consumer trust and increase purchase confident level

Figure 1:
Hong Kong total wine imports

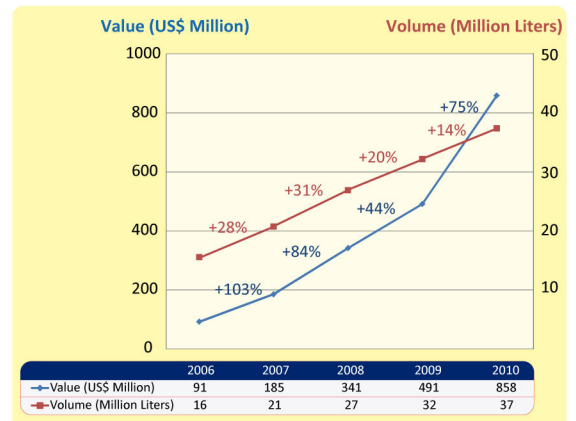


Figure 2:
Italy total wine production

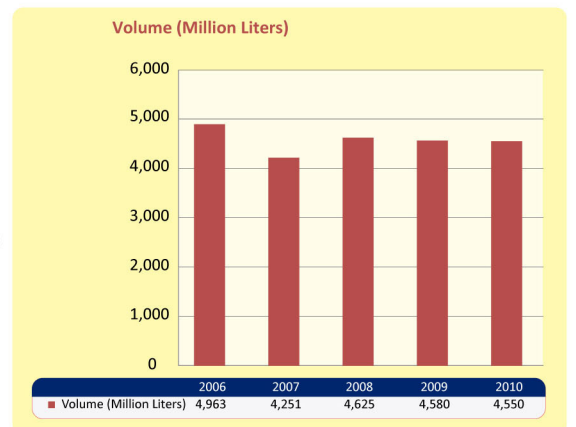


Figure 3:
Key wine trading countries in Hong Kong and Italy

Hong Kong Major Wine Import Countries

Country	Value (US\$ Million)	% Share	Growth 10 vs 09
France	495	58%	+83%
UK	123	14%	+74%
Australia	53	6%	+26%
US	46	5%	+15%
Italy	19	2%	+46%

Italy Major Wine Export Countries

Country	Value (US\$ Million)	% Share	Growth 10 vs 09
Germany	1,128	23%	-3%
US	1,075	22%	-1%
UK	613	12%	-13%
Switzerland	335	7%	-4%
Canada	287	6%	+32%

Source: USDA Foreign Agricultural Service GAIN Report, 2011

Case Sharing

Achieving Global Wine Supply Chain Visibility from Italy's Vineyard to Hong Kong Local Storage via Cross-border EPCIS Networks

BACKGROUND

Initiated by GS1 Hong Kong and GS1 Italy, a series of wine traceability project was kick-started in the 2nd quarter of 2011. The project was aimed at tracking the wine while in transit from Italy's famous vineyard and wine producer, including Azienda Agricola Le Macchiole (Le Macchiole), to Hong Kong leading wine cellar.

CHALLENGES

The logistics supply chain is becoming more advanced everyday. This leads to increasing global demand for fine wine, including in Hong Kong where wine lovers are now based. As a leading wine distributor, Le Macchiole has to ensure meeting market demand to keep pace with competition hence the company directly ships vintage wine from winery to global market. However, Le Macchiole is faced with the huge challenge of dealing with different overseas buyers and wine retailers, thus ensuring visibility across the global supply chain to meet shipment schedules and effectively manage inventory is a top concern.

Depending on the wine's vintage year, a bottle of wine can peg from a hundred to thousand Hong Kong dollar. This is the reason why GS1 Italy and GS1 Hong Kong piloted a cross-border solution to track-and-trace the whole shipment and delivery route of wine products from the time they left Italy until they reached local wine storage facilities in Hong Kong.

SOLUTIONS

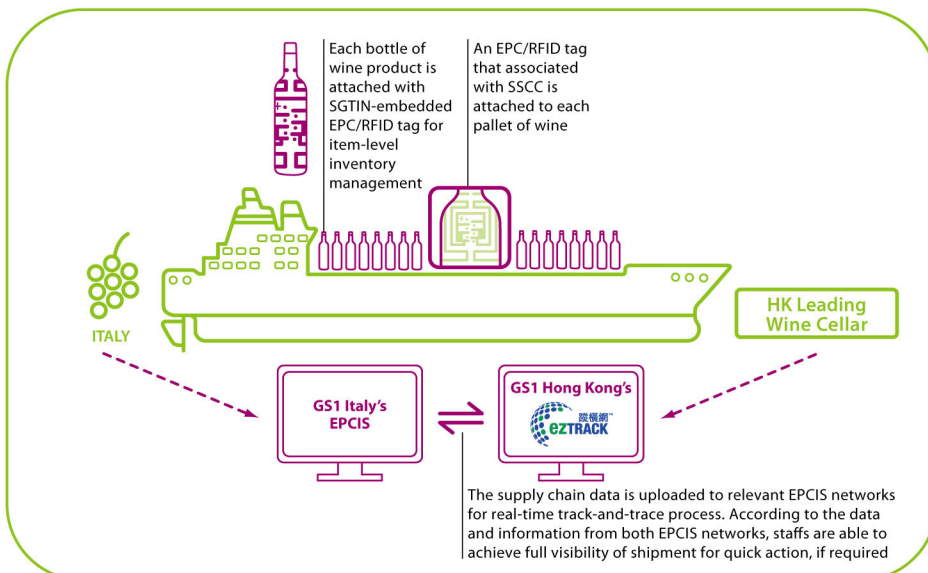
By using the interoperable GS1 Standards, GS1 Italy's EPCIS network and GS1 Hong Kong's ezTRACK™ were able to track-and-trace the wine products globally. Under the pilot test, as soon as the wine was bottled at the winery, Le Macchiole attached an EPC-enabled RFID tag that was associated with Serialized Global Trade Number (SGTIN) per bottle. Then, the wine bottles were placed in boxes and packed on pallets with an EPC/RFID tag that associated with Serial Shipping Container Code (SSCC). This process enabled the accurate capture of stock-out inventory and wine movement information from the vineyard using EPC/RFID readers. The data were then uploaded on GS1 Italy's EPCIS network, indicating that the pallets of wine were ready for packing in container vans and transport to Italy port for shipment overseas. Upon arrival of the container vans carrying the wine products in Hong Kong port, the local wine cellar's staff used RFID readers to check the supply chain data generated by EPC/RFID tags and the wine products were

certified shipment if inventory was accurate. The container was then transported to the warehouse for stock-in and storage, and then transferred to retail outlets ready for consumer purchase or pick-up. All these events in Hong Kong were uploaded on GS1 Hong Kong's ezTRACK™. The product information of the wine during the entire supply chain including data related to stock-out, ship-out, ship-in, and stock-in is captured by the EPC/RFID tags, uploaded to relevant EPCIS networks, allowing worldwide wine retailers to achieve full visibility of the whole movement of the wine products from Italy's vineyard to their storage destination.



BENEFITS

The first half of this pilot project was completed in August 2011. By implementing GS1's international traceability pilot, the Italy wineries enhance the relationship with foreign buyers by facilitating global real-time product shipment visibility. They were also able to meet customers' satisfaction by assuring the shipment will arrive on time. Based on these practical results, GS1 Italy and GS1 Hong Kong will continue to work with other Italy vineyards and Hong Kong wine retailers to deploy the thermo-humidity solution in near future.



Case Sharing

Bringing Consumer Satisfaction to a Higher Level through EPC/RFID based Item Level Wine Storage Management

BACKGROUND

Collezione Wine Cellars Limited (Collezione), a subsidiary of Hanison Construction Holding Limited, is a local wine storage and retail company. Located in a 10,000 square feet facility in Shatin, it has a fully furnished dining and lounge areas targeted for prominent business individuals and organizations in Hong Kong and China.

CHALLENGES

Collezione's two wine storage facilities in Shatin are capable of storing up to 80,000 bottles or 60,000 litres of fine wine. The price tag of each bottle ranges from thousand to ten thousand dollars depending on its vintage year, thus the wine cellar company is faced with the tough challenge of carefully managing and securing their wine stock.



The company manually manages a large volume of inventory in-and-out, hence it was prone to human error, including frequent incidents of wine bottles ending in the wrong rack. It also takes about 30 minutes for a staff to locate, identify and distinguish a certain wine in the 150 square feet facility to meet customer's stock request, hence there is high probability that the company can lose profit due to mishandling of the wine products. Such scenario prompted Collezione to search for a solution that can effectively address operational issues including having full storage visibility of its inventory management and efficiently handle security issues to prevent wine from getting misplaced, and more importantly, enhance operational efficiency to satisfy customer service expectations.

SOLUTIONS

After consulting with GS1 Hong Kong and PCCW Solutions – a leading business and technology solution provider in Hong Kong, Collezione decided to implement EPC/RFID-based Wine Storage Management Solution in June 2010 to address recurring operational issues. With the solution, Collezione eliminated manual stock-in process by attaching each bottle or box of wine with EPC/RFID tag in item-level and assigned with GS1 Global Returnable Asset Identifier (GRAI). This allows the company to associate the stock-in time with individual customer information in the system. While the wine boxes are in the receiving section of Collezione, a RFID reader captures the information associated in the EPC/RFID tag, and updates the inventory system for management and security procedures. Once registration process is done, the staff moves the wine into storage area and places the wine on designated shelf which has a corresponding GS1 Global Location Number (GLN).

With the GS1 Hong Kong solution in placed, Collezione staff can quickly and easily locate specific wine based on the assigned GLN and GRAI when a customer requests for a specific wine, by scanning the EPC/RFID tags with the RFID handheld reader in the storage. The reader makes a loud sound when the staff comes nearer to the wine being requested, thus the time in locating the wine is shorter and more efficient. The staff then detaches the wine's EPC/RFID tag, and updates the

inventory system to complete the stock-out process. Likewise, the security alarm triggers if an unauthorized EPC/RFID tag passes through the EPC/RFID-enabled door.

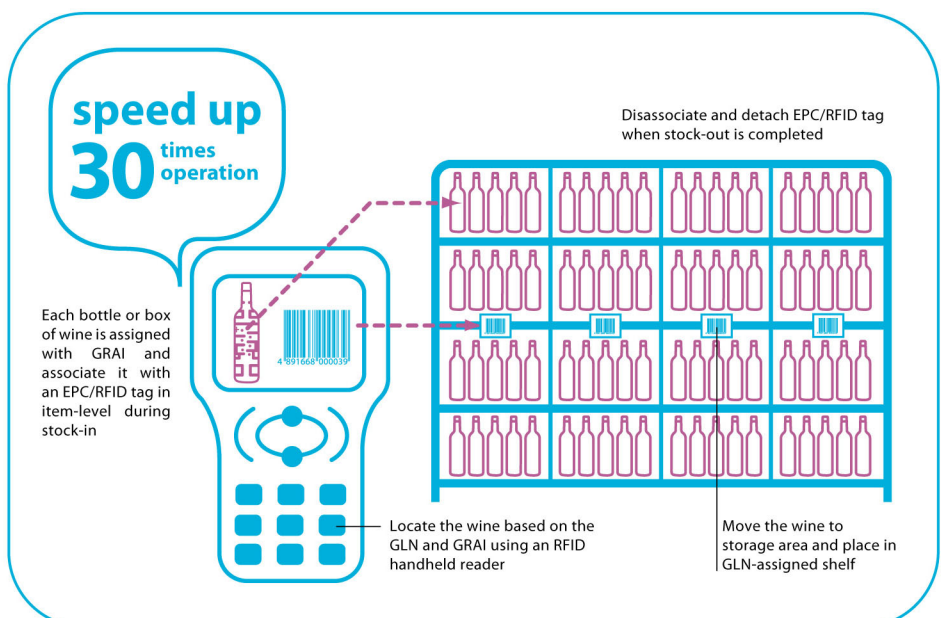
BENEFITS

Operational process is 30 times faster and enable security feature

A huge improvement in quickly searching wine bottles at Collezione's 150 square feet storage facility was noted by the company. Instead of locating the wine for about 30 minutes, it now only takes a minute for a staff to find the product using the RFID reader. "We are very impressed with the EPC/RFID-based wine warehouse management solution which not only boosts our operational process by up to 30 times, but also enabling us to have a highly secured environment," said Mr. Dick Chan, Assistant Marketing Manager, Collezione Wine Cellars Limited.

Meet customer's satisfaction and exceptional wine purchasing experience

Collezione customers greatly benefited from the wine cellars' decision to deploy GS1 Hong Kong EPC/RFID-based Wine Storage Management solution. "We have eliminated the frequent problem of misplacing wine bottles. As a result, our customers are fully satisfied with our efficient operation and gain exceptional customer service, hence gaining their trust to use our wine storage services," Mr. Chan added.



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What can we do for you?

We provide a comprehensive, integrated, standard-based solutions to power your wine business, which enable you to achieve:

- Efficiency and transparency of wine inventory and warehouse management
- 100% accuracy in every step of the operation
- Time to market as GS1 Standard is interoperable and truly global



Cold Chain Management Solution

A solution powered by EPCIS network that capture and share real-time data of temperature, humidity, time and location of products in transit.



Consumer Connect

A mobile app enables consumers to obtain trusted source of data and latest hot deal by scanning BarCode or QR code via smart phones conveniently and efficiently.



Warehouse Management System

A solution to improve inventory management and enhance in-stock, out-stock and stock take efficiency.



Certification Program

A wine certification program to assist industry and commerce to ensure the wine being stored and transported has fulfilled quality standards across the wine supply chain and boundaries.



Genuine Product Authentication Solution

A solution powered by EPCIS network enabling supply chain e-pedigree visibility including channel management and brand integrity.



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