



# Strengthening tequila supply chain integrity from Mexico to the U.S.

By uniquely identifying individual bottles with GS1 standards, Mexican exporters can better manage their inventory. By scanning GS1 barcodes on boxes, they can assess whether the order was complete at the time of shipment, taking action early in the process, if needed. Trading partners can also obtain information on a full-trailer load compared to lots shipped, along with a summary of the shipped boxes, significantly improving process efficiency.

## Improving supply chain integrity

The tequila project aimed to show how the use of GS1 standards and seamless data sharing between trading partners could enable traceability and help automate manual processes for end-to-end product visibility, anti-counterfeiting measures and improved supply chain integrity.

The pilot project was also relevant for the tequila industry in order to demonstrate that product identification could be used to reduce smuggling and prevent counterfeiting. GS1 worked with APEC governments to test the use of global data standards (GDS) in international supply chains among APEC member countries. APEC<sup>1</sup> researchers have now issued the findings of the 2016 project that focused on the tequila supply chain.

It was concluded that by using GS1 standards to uniquely identify products, the tequila trade between Mexico and the U.S. could realise significant improvements in traceability as well as efficiency gains in processes.

## Selecting pilot participants

The tequila supply chain was selected for the pilot project since Mexico exports 79 percent of its tequila to the U.S. In 2014, this represented about 132 million litres of tequila.

## Challenge

The Ministry of Economy and National Chamber of the Tequila Industry chose four tequila companies to participate in the GS1 standards pilot to reduce smuggling and prevent counterfeiting.

## Solution

GS1 identifiers encoded in EPC/RFID tags uniquely identify each tequila product along with data such as the lot number and expiration date. The EzTrack EPCIS platform enables all stakeholders to track the movement of tequila shipments throughout the global supply chain.

## Results

The tequila trade between Mexico and the U.S. can realise significant improvements in traceability as well as efficiency gains. Processing time has improved by 30 percent and counterfeiting has been minimised.

<sup>1</sup> APEC is the premier Asia-Pacific economic forum. Its primary goal is to support sustainable economic growth and prosperity in the Asia-Pacific region. [www.apec.org](http://www.apec.org)

The Ministry of Economy and the National Chamber of the Tequila Industry chose the following tequila companies to participate in the project: Corporativo Destileria Santa Lucia S.A. de C.V.; the Patron Spirits Company; Proximo Spirits Inc.; Tequila Cuervo; and Pernord Ricard Mexico S.A. de C.V.

## Ensuring cross-border traceability

The focus of this pilot was to ensure that the products were not stolen, altered or exchanged for counterfeit products. It was, therefore, based on monitoring the traceability of tequila shipments, knowing where specific products were located in the supply chain, at a specific point in time. Additional traceability information included knowing that the trailer had not been altered and that products had not been stolen or exchanged.

A framework for information connectivity was established, supported by the use of GS1 standards and a data visibility platform. This helped interconnect public and private stakeholders throughout the supply chain.

The adoption of GS1 standards was essential since they enabled the unique identification of products, business locations, and documentation and underpinned the implementation of information cross-border interoperability, resulting in improved supply chain visibility.

The technology put in place to support the integrated supply chain was the EzTrack visibility platform, which is an EPCIS-based tool that allows collecting information through the different stages of the supply chain and interconnects the stakeholders involved in the international movement of goods.

Information exchange was enabled via EPC (Electronic Product Code)-enabled RFID technology that supports the traceability of physical objects, loading units, locations or any other identifiable entity in the commercial operations.

The technology evaluated in the pilot was intended to demonstrate that it could be used for traceability purposes, thus preventing counterfeit products.

## Reductions in time and counterfeits

As a result of the pilot, it was possible to demonstrate that tequila traceability can be achieved via identification with EPC/RFID tags, with information backup to the EzTrack system. This enabled the stakeholders to have visibility of the shipments at all stages in the export process as well as efficiencies when validating the products shipped. There was a reduction in counterfeiting since each label was assigned a GTIN that uniquely identified the product along with other valuable information such as the lot number, expiration date or other data required for monitoring. The use of EPC/RFID tags with standardised information supplied by EPCIS allowed all stakeholders to better control inventory with accurate counts and reduced time of operations.

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There was a reduction in counterfeiting since each label was assigned a Global Trade Item Number® (GTIN®) that uniquely identified the product along with other valuable information such as the lot number, expiration date or other data required for monitoring.

Benefits associated with improved inventory management were also realised when the importer received tequila shipments since the interface between the scanner and control software of the warehouse automatically updated the inventory database. With the scan of a handheld scanner, the importer could access detailed data about the products included on the average pallet in approximately one minute, compared to an EPC/RFID tunnel that only takes 5 to 10 seconds. Using EPC/RFID tags and the information they contain, the importer can detect if the shipment integrity has been altered, taking no more than 10 seconds.

Thanks to the pilot project, it was possible to prove that through the use of EPC/RFID technology along with GS1 standards at the individual product level, trading partners can detect a missing bottle from the count.



To be effective, it is necessary to control the management of tags at the time of assigning the GTIN for each bottle since the omission and duplication of tags can cause inventory differences of the products shipped. One of the lessons learned: Metal containers affected tag reading since the metal acts as a barrier.

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The adoption of EPC/RFID technology has resulted in a more efficient process of scanning a pallet of tequila boxes, compared to scanning barcodes, box-by-box. This has improved processing time by 30 percent. The use of technology in the pilot also helped reduce both damaged and missing products identified during inspections.

Results from the pilot project were impressive. The use of EPC/RFID tags with GS1 standards connected with the warehouse's control software enabled supply chain visibility and directly impacted the time involved in the shipment of products. Tequila companies that averaged between 28 to 42 days from the time a purchase order is received to when the shipment reaches the destination warehouse found they could reduce this interval. This improvement was due to the speed in reading or scanning products contained in a pallet, reducing the documentation time per pallet to an average of 6 hours. This represents a 30 percent decrease in processing time before the shipment is despatched. The use of technology in the pilot also helped reduce both damaged and missing products identified during inspections.

In summary, the adoption of EPC/RFID technology has resulted in a more efficient process of scanning a pallet of tequila boxes (from 40 to 84 bottles), compared to scanning barcodes, box-by-box. This has improved processing time by 30 percent. Counterfeiting has been minimised as an EPC/RFID tag carries more information than a barcode, including the GTIN and specific data related to production lot number, expiration date and other user-defined data.

## Future advantages for governments

The Ministry of Economy has indicated a strong interest in further developing additional pilots to test the system over a longer period of time. It is expected that this will result in the operationalisation of the system based on GS1 standards and EPC/RIFD scanners and tags.

The current stakeholders also plan to continue their use of GS1 standards for future shipments.

The Mexican government along with GS1 Mexico will work together to implement a second phase of the tequila pilot project for a longer and more in-depth evaluation of GDS benefits. This will specifically focus on improving the product's authenticity and ensuring its quality in a way that could benefit other high-value exported goods.

It is recommended that future pilots evaluate product identification at the bottle level along with the corresponding operational implications to improve inventory control and increase product traceability.

Based on this first pilot, recommendations to the respective governments focused on two lines of activity:

- On a macro level, policies strengthening the enforcement of illegal sales and product forgery could be supported by the use of GS1 standards. Furthermore, policies aimed at improving social awareness of acquiring authentic products and reporting bad practices could be sponsored by the government to avoid any safety issues related to the consumption of counterfeit alcoholic beverages.
- There is potential advantage if customs and/or border protection agencies use the system to conduct risk-profiling and targeted enforcement efforts, thus, permitting low-risk consignments prioritised clearance and less time spent on examination.

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### Learn more

To learn more about this pilot, contact Osiris Lopez, GS1 Mexico, [olopez@gs1mexico.org](mailto:olopez@gs1mexico.org).

#### About GS1

GS1 is a neutral, not-for-profit, global organisation that develops and maintains the most widely used supply chain standards system in the world. GS1 standards improve the efficiency, safety, and visibility of supply chains across multiple sectors. With local Member Organisations in over 110 countries, GS1 engages with communities of trading partners, industry organisations, governments, and technology providers to understand and respond to their business needs through the adoption and implementation of global standards. GS1 is driven by over a million user companies, which execute more than six billion transactions daily in 150 countries using GS1 standards. More information at [www.gs1.org](http://www.gs1.org).

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