



Securing the durian export supply chain from Malaysia to China

The durian export pilot demonstrated that cross-border traceability is possible when using GS1 standards supported by the EPCIS visibility platform. Outcomes from the pilot highlighted a significant improvement in overall supply chain performance and integrity. Time spent on tracking consignments' positions in the supply chain was reduced by an impressive 98 percent.

Cross-border identification

In 2016, APEC¹ conducted a series of pilot projects in a number of its member countries. The pilots focused on food and beverage supply chains with a range of different applications of GS1 standards to improve supply chain visibility and integrity as well as product quality. The goal was to ensure that APEC supply chains could become more efficient and aligned with APEC targets. One pilot focused on the durian supply chain between Malaysia and China.

Malaysia is one of the world's leading producers and exporters of the durian fruit due to its natural abundance in the country. In terms of size and potential growth, Hong Kong, China and greater China are key markets for the Malaysian durian export.

Authorities faced new challenges of facilitating, yet controlling increased trade of durian. To effectively protect and monitor the market or, if needed, prohibit products from being distributed, authorities needed to put a system in place that enabled manufacturers, traders and end users to seamlessly communicate with governments.

Challenge

Authorities faced new challenges of facilitating, yet controlling the increased durian trade, a premium product in Asia. There was a need to reduce the risk of counterfeits, especially in China.

Solution

GS1 identifiers were implemented to uniquely identify each piece of the durian fruit as well as logistics units and consignments transporting them from Malaysia to China. Mi-Trace, based on EPCIS, provided access to information for farm-to-consumer traceability.

Results

Time spent on tracking consignments has been reduced by 98 percent, and errors due to manual data entry have been eliminated. Information about each shipment is now available in real time, and counterfeit products can be easily detected.

¹ 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

Furthermore, exporters needed end-to-end traceability and access to complete information about each durian shipment, including its real-time location and temperature.

And as the Chinese market is particularly vulnerable to counterfeiting, there was a need to combat and reduce the risk of counterfeits for these premium products.

Visibility and integrity

The project focused on how improved visibility and integrity in the international supply chain could improve Malaysian exports to Hong Kong, China and greater China, and how effectively using supply chain data could enable new ways of improving consumer safety.

Specific objectives of this pilot were to achieve measurable improvements in supply chain efficiency and demonstrate the added value to industry, customs, health and food safety authorities for sharing product data across multiple jurisdictions.

Stakeholders were from Malaysia, Hong Kong, China and greater China. Malaysian stakeholders included representatives from the Malaysia Durian Exporter Association, the Ministry of International Trade and Industry, the Department of Agriculture, GS1 Malaysia and the Federation of Malaysian Manufacturers.

To ensure visibility, integrity and full traceability in the supply chain, a foundation of GS1 identifiers was needed. In response, traders used a Global Trade Item Number® (GTIN®) with a serial number to uniquely identify each of their products as well as a GS1 Serial Shipping Container Code (SSCC) for each logistics unit and consignment, enabling them to identify incoming products by brand owner and for use in cross-border documentation.

The pilot project successfully demonstrated that cross-border traceability along with significant improvements in supply chain performance could be achieved by using GS1 standards supported by the EPCIS platform.

Time spent on tracking consignments' positions in the supply chain was reduced by an impressive 98 percent. Errors due to manual data entry were also eliminated.

Developed by MIMOS with the support of the Malaysian government, Mi-Trace, based on the EPCIS platform, a GS1 standard, was used in the pilot to provide access to and share product information. Its intent was to enable traceability from farm-to-consumer as well as authenticate the origin of the frozen, packed "Musang King" durian fruit and ensure the quality and integrity of the exported fruits.

Mi-Trace also provides verification of certification by the U.S. Food and Drug Administration's HACCP (Hazard Analysis Critical Control Point), Halal, MyGAP Guidelines (Malaysian Good Agricultural Practices), SALM (Good Farm Practice Scheme Malaysia) and Good Manufacturing Practices (GMP).

In summary, stakeholders shared information from their systems, using GS1 standards that could then be used by governments to identify, screen, verify and control products in Malaysia's domestic market as well in the international supply chain.

Full traceability and time savings

The pilot project successfully demonstrated that cross-border traceability along with significant improvements in supply chain performance could be achieved by using GS1 standards supported by the EPCIS platform.

Time spent tracking consignments in the supply chain was reduced by an impressive 98 percent, from 4 hours (240 minutes) to 5 minutes since information in individual companies' systems was accessible to all trading partners.

The cross-border clearance process also proved to be much more efficient since the necessary documents can now be uploaded to the platform for review and clearance decisions by Customs authorities, thus avoiding delays and subsequent costs.



Before the pilot implementation, most event data was manually recorded, with an approximate 15 to 20 percent error rate. With the new system, the event data is captured via a mobile scanning device, eliminating human input errors.

The pilot also demonstrated the benefits of real-time traceability of packages. Each individual durian can be easily located and identified throughout the supply chain processes. The status and data of each package is now made available in real time—details such as location, shipment status, time of capture and captured event—increasing package tracking visibility to 100 percent. By applying a serialised GTIN to each piece of durian fruit, counterfeit products can now be detected.

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Public-private cooperation

As an outcome of this pilot, the need for stronger public-private cooperation has been identified for better trade operations.

With improved supply chain efficiencies, local exporters are potentially benefiting by delivering a higher quality product and lower administrative and transport costs. Malaysian exporters also better understand GS1 standards and their potential, which can lead to stronger private-public cooperation in the future and with other agro-food products.

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Since the pilot project partly leveraged Mi-Trace, a Malaysian government-managed visibility platform, it can support a wider adoption among Malaysian export companies.

The GS1 system of standards was established as a best practice and integral to the process for exporters to achieve full traceability of their future shipments.

Additional next steps could include extending this project to the remaining eight Malaysia durian processing plants accredited by AQSIQ (China government) by implementing GS1 standards as part of their export processes.

This will be discussed with the government of Malaysia, including the Department of Agriculture, the Malaysian Quarantine Inspection Services, and the Royal Malaysian Customs in order to explore potential other agro-food products for the future expansion of the use of GS1 standards.

Learn more

To learn more about this pilot, contact Eng Hwee Yeap, GS1 Malaysia, ehyeap@gs1my.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.

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