

Pilot Implementation of a Traceability System for the Dalat Milk Supply Chain



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Traceability systems based on globally recognised traceability standards are being piloted in the Greater Mekong Subregion to enable enterprises to have interoperable systems that could effectively trace back product origin and manage production procedures with the aid of information technology.

This initiative is part of the *Pilot Project on Strengthening Agri-Food Product Traceability in the Greater Mekong Subregion: Implementing the GS1 Traceability System for Dairy Products for the Dalat Milk Joint Stock Company*.

It is very relevant in the light of the Viet Nam Prime Minister's approval of the "Decision-100 Scheme" on the deployment, application and management of a national traceability system in Viet Nam.

Challenge

At Dalat Milk and its partners, all processes and documentation were manual and paper-based, there was no systematic way of tracking and record keeping.

At farmers level, documentation was 100% manual. At the Milk Collection Centre, track and trace data capture was 85 % manual, data were not linked together: could not be traced back to the origin - the farmer, the raw milk cylinder, and the cow). At the Dalat Milk Factory, Distribution Center and Retailer, production and procurement planning were all 70% excel-based.

The Dalatmilk logo, consisting of the word "Dalatmilk" in a bold, dark blue, sans-serif font.

Solution

Information Sharing Traceability System enables producers and other supply chain actors to electronically input product history information into a cloud-based database, control information exchanged, and communicate verified information about product hygiene, safety and quality - in order to reduce cost, minimise paperwork errors and save time. This serves as an effective information sharing tool for the recall of raw materials in order to efficiently manage food safety risks for consumers.

Benefits

- Ensures better traceability of products, provides full traceability information about milk from retail and back to the farmer and the cow that produced it.
- Provides support of the Quality Assurance team's quality control activities.
- Improves efficiency of accessing, retrieving, processing, managing data.
- Improves information exchange and quality of information on product hygiene, safety and quality within various Dalat Milk departments.
- Reduces manual operations and paperwork.

At the milk collection centre, processing time by employees reduced to 50% and paperwork reduced by 70%. At the Dalat Milk Factory, manual paper-based documentation decreased by 80%.

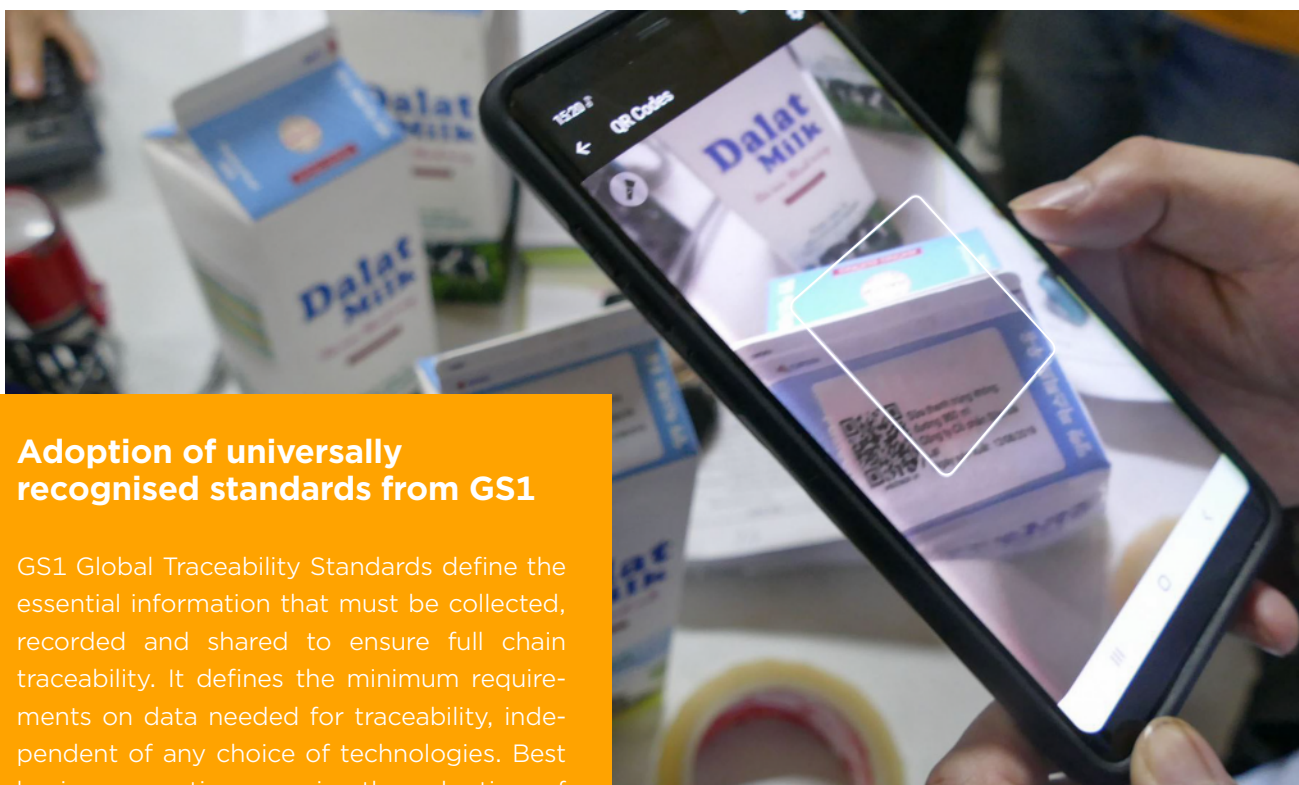
Seven stages of the Dalat Milk supply chain process

The pilot covered four key stages out of the seven in the milk supply chain process: (1) farmer house - (2) milk collecting point - (3) transport and (4) milk factory.



Adoption of universally recognised standards from GS1

GS1 Global Traceability Standards define the essential information that must be collected, recorded and shared to ensure full chain traceability. It defines the minimum requirements on data needed for traceability, independent of any choice of technologies. Best business practices require the adoption of barcoding on cases, cartons, consumer items and logistics units.



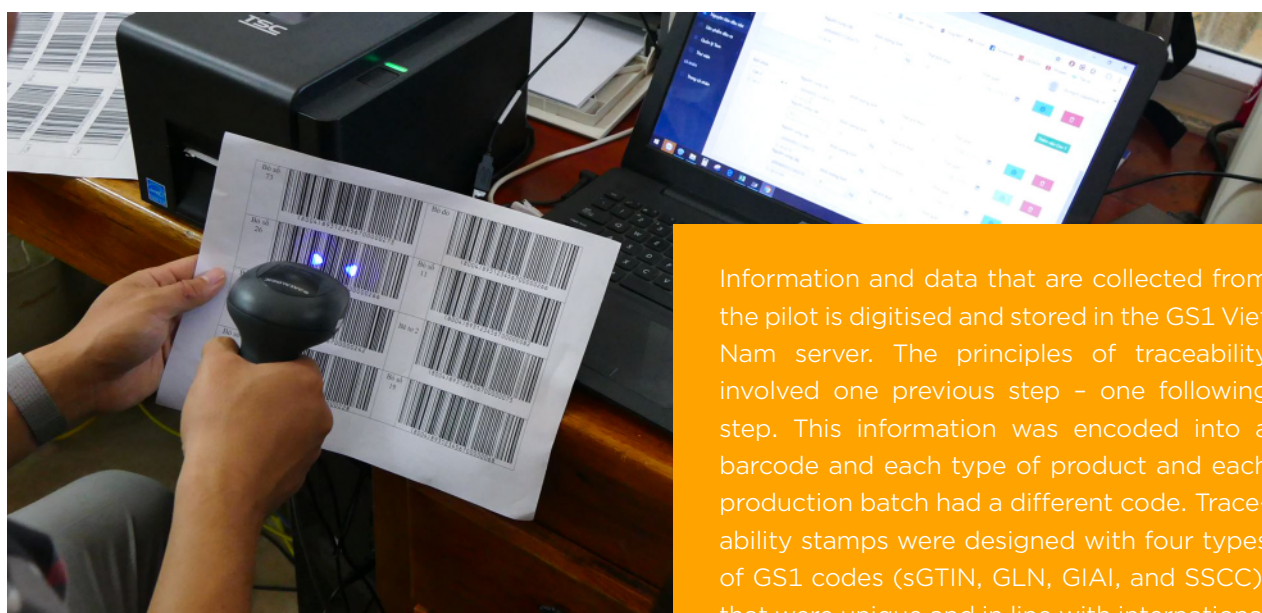
Master Data and Event Data

GS1 has divided its standards into three layers, namely: Identify, Capture, and Share. The “Share” is GS1 standards for information sharing include data standards for master data, business transaction data, and physical event data, as well as communication standards for sharing this data between applications and trading partners.

Master Data is the core information about the “who”, “what”, and “where” in a trading relationship. The “who and where” can include the name, address and identification codes of the buyer and seller plus details of shipping, delivery and billing locations. In the pilot project for Dalat Milk, the “what” is product information such as product name, description, size and barcode number. The Master Data should be defined by trading partners or suppliers.

Physical Event Data (Event Data) is the information generated by an item as it moves through the supply chain. It includes the “what”, “where”, “when” and status of an object each time the item’s RFID tag is read. Event Data Sharing is facilitated by the Electronic Product Code Information Services (EPCIS). Event data creates visibility across the supply chain for all trading partners with whom the data is shared. To share product information, companies previously had to manually record all movements throughout the supply chain.

Relationship between master data and event data and EPCIS: Event Data should include What, Where, When and Why



Information and data that are collected from the pilot is digitised and stored in the GS1 Viet Nam server. The principles of traceability involved one previous step – one following step. This information was encoded into a barcode and each type of product and each production batch had a different code. Traceability stamps were designed with four types of GS1 codes (sGTIN, GLN, GIAI, and SSCC), that were unique and in line with international standards. Information was accessible in real time.

Definition	Materials and assets used in milk processing and production	Input materials and assets	Finished product of a production cycle	GS1 standards applied to create, store and retrieve information
1. Farmer	Cow and (small) tanks of milk	Raw Milk	Raw Milk	GTIN of raw milk from a farm GIAI of a tank from farmers GLN of a farm GLN of the milk collection point
2. Milk Collection Point	6-ton milk tank	Raw Milk (that passed quality)	Raw Milk (that passed quality)	GTIN of raw milk from a farm GIAI of a tank from farmers GIAI of a tank from the milk collection point GLN of a farm GLN of the factory
3. Transport	Milk truck, 4-ton milk tank	Raw Milk (that passed quality)	Raw Milk (that passed quality)	GTIN of mixed raw milk in a truck SSCC of the milk collection point GIAI of a truck GLN of the milk collection point
4. Milk Factory	Awaiting the arrival of the milk tank	Raw Milk (that passed quality)	Pasteurised Milk No Sugar 950ml	GTIN of mixed raw milk in a truck GLN of the factory
5. Distribution Center	×	Pasteurised Milk No Sugar 950ml	Pasteurised Milk No Sugar 950ml	GTIN of non-sugar processed milk GLN of the factory GLN of a distribution centre
6. Retailer	×	Pasteurised Milk No Sugar 950ml	Pasteurised Milk No Sugar 950ml	GTIN of non-sugar processed milk GLN of a distribution centre GLN of a retailer
7. Customer	×	Pasteurised Milk No Sugar 950ml	×	GTIN of non-sugar processed milk GLN of a distribution centre GLN of a retailer

The Dalat Milk reported that the introduction of the traceability system and the introduction of the WeCheck Software for data exchange and collaboration allowed supply chain partners (farmers, milk collection centre, factory, distribution centre and retailer) to electronically input product history information into the centralised database. It provided better traceability of products, supported the QA team's quality control activities, and improved the efficiency of accessing, retrieving, processing, managing data more quickly and conveniently.

The software system WeCheck collects and shares verified information from the dairy producers (farmer householders) to the Dalat Milk factory, distribution centre, and retail outlet, and allows the factory to verify product information, i.e. testing results, what particular cow-head produced a specific batch of milk, and time of production, etc., electronically and systematically. The raw materials and final products are systematically labelled with GS1 identifiers and traceability stamps.



The introduction of the central database through the WeCheck software and application improved efficiency of information exchange and transfer of verified information on product hygiene, safety and quality within various Dalat Milk departments and reduce the amount of manual paperwork.

With the traceability system in place, all parties can access and trace back the origin of the milk and its quality. It only takes up to 2 seconds to query all the traceability supply chain information.

All Dalat Milk partners recognise that it helps strengthen trust among stakeholders and consumers.

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