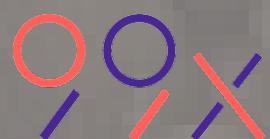




CASE STUDY

# AGRARCO

Azerbaijan



AGRARCO is a project funded and supervised by the Asian Development Bank (ADB) and managed by the Azerbaijan Food Safety Agency (AFSA). This is a part of a project where Tracified has piloted a food<sup>TM</sup>traceability solution in Azerbaijan at a National Level.

This project gives concern to a multiple of crops with a focus on export and the main objective of this is to ensure food safety. The project has been implemented with a vision of extending it to the Asian region.

Agrarco LLC is a well renowned company located in the Baku city of Azerbaijan. It engages in the production and export of top quality hazelnuts and fresh fruit varieties including apples, pears, peaches, plums, cherries and nectarines. Their mission is to provide transparency and traceability of information to their customers so that they may enjoy the fresh and environment-friendly products produced and offered to the market.





The processing facility of Agrarco is located in Zaqatala district of Azerbaijan and it is equipped with an array of modern technology; a hub comprising of fully automated hazelnut crashing mechanisms, a processing facility, a cooling warehouse which controls the relative humidity and temperature. In addition Agrarco consists of a internationally certified laboratory with accredited quality controls to test the products and also an appealing guest house.

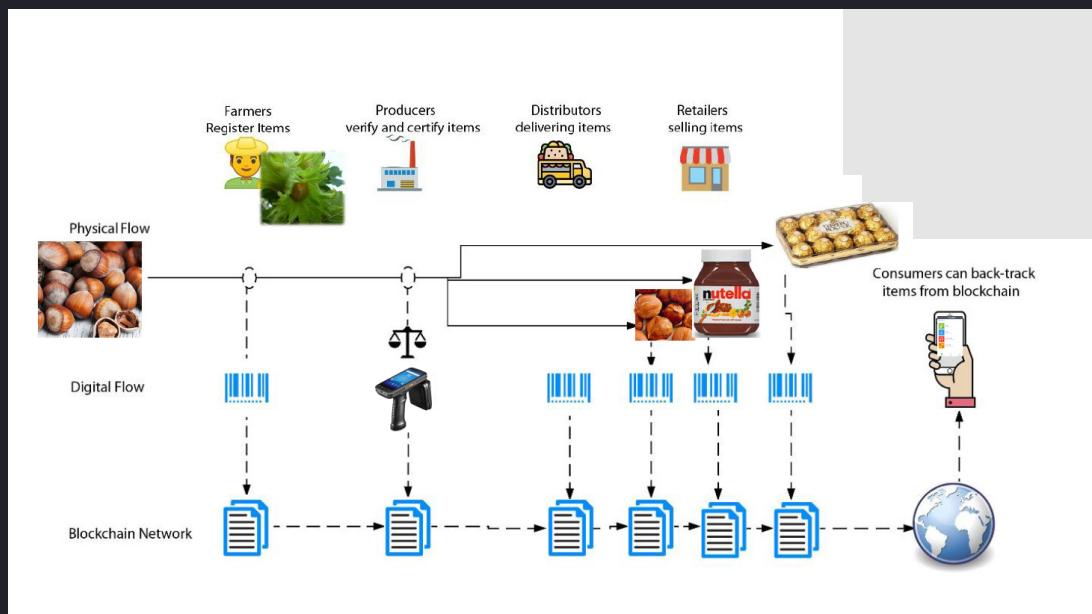


Agrarco mainly exports products to Germany, France, Switzerland, Italy, Russia and Belgium. They provide a full range of the fruit supply chain - from cultivation and processing to packaging and delivery.

# Problem

The Government of Azerbaijan has planned to adopt food safety laws and regulations but the agri industry of Azerbaijan is associated with a small-holder of farmers and small-scale business operators. Therefore, the ADB has planned to implement a food traceability system with the main objective of providing supply chain transparency to the consumers. The requirement was to track and trace their products from it being raw materials to it being presented as final products ensuring that the food is safe and nutrious. Therefore, initiating a mechanism for proper traceability could be the foremost course of action taken to adopt food safety laws and regulations imposed by the Azerbaijan Government.

The company has done a self evaluation regarding their current production processes and have decided to move forward with the Tracified platform<sup>TM</sup> to make their operations more transparent to their consumers. This will enable Agrarco to stand out in the market of the same domain.



End to end capture of AGRARCO export value chain by Tracified.

# Solution

Tracified™ has implemented a traceability solution secured with a public blockchain. Tracified executed a Radio Frequency Identification (RFID) mechanism for batch tracking whereby digital data encoded in RFID tags will be captured by RFID readers. Scanning QR codes and Bar codes of each and every bag or lot, of Hazelnut was a tedious task and it was overcome by the use of the RFID tags.

Hazelnut bags contain RFID encoded tags and those could be read by the RFID readers located at the farms. It can also be read using handheld RFID readers.



# Customization of Tracified Platform for the Solution

Tracified comprises of specific web portals and mobile applications for viewing and entering data whenever and wherever it is required.

## Tracified Web Portals

Tracified Admin Portal - The portal through which administrative functionalities such as adding new users, viewing reports, adding new artifacts, master data and items can be done.

Tracified Insights Portal - for extended business insights (showcasing the traceability data added under the items by the Field Officers)  
Tracified implemented a new module for recall management.

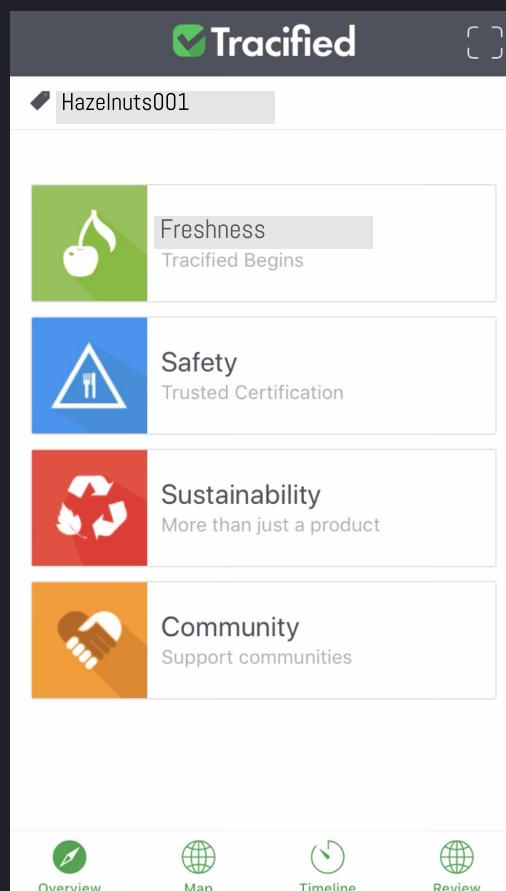
PRODUCT	BATCH ID	RECALLED REASON	RECALLED STAGE	RECALLED DATE AND TIME	NOTIFY
Cinnamon leaf Oil	Todaytest001	Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.	Seeding	Jul 19, 2021, 1:18:07 PM	
Cinnamon leaf Oil	F014	Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in	Quarantine Release	Jul 9, 2021, 1:56:50 PM	
Cinnamon leaf Oil	BATCH234	Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.	Seeding	Jul 9, 2021, 1:52:16 PM	
Cinnamon leaf Oil	Cinnamon007	Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.	Seeding	Jul 9, 2021, 1:19:27 PM	
Cinnamon leaf Oil	Test005	Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.	Primary Processing	Jul 5, 2021, 5:01:35 PM	

Tracified Configs Portal - to configure the workflow of the supply chain.

# Tracified Mobile Applications

Tracified Field Officer Application - used to enter traceability data to the system.

Tracified Consumer Application - used by consumers in order to view the traceability data during each and every stage of the supply chain process, to view the origin, safety, sustainability, and communities supported, and to rate products.



Tracified Wallet Application - used specifically for Blockchain related asset transactions and it can also perform a change of custody and accept or reject change of custody requests.

# Four quadrants of Traceability

Freshness: This Dimension reflects the quality related to freshness of the product.

Safety: The Dimension that reflects certificates, standards, and processes owned by the business to entrust the safety of the food consumed by the consumers.

Sustainability: This Dimension informs customers that a business delivers more value to society than just a product. Sustainability badges are awarded to a business based on the good practices followed during the production process.

Community: It's the Dimension that reflects how the purchase by a customer nurtures the community as a whole.

The screenshot displays a traceability platform interface with the following sections:

- Traceability:** A yellow tab at the top. The main content area is titled "Trace your product".
- About the product:** A sub-tab at the top.
- Cold chain maintained:** A green circular icon with a white circle inside, indicating that the product has been maintained at the correct temperature throughout its journey.
- Grade:** 5 out of 5 batch(es) for size, ripeness and maturity.
- Individual care:** 5 out of 5 batch(es) for individual care given in product handling.
- Farms:** A map of Sri Lanka showing the location of the farm. A blue marker indicates the farm's location in the central region.
- Packhouse:** A map of Sri Lanka showing the location of the packhouse. A blue marker indicates the packhouse's location in the central region.
- FRESHNESS:** Fresh Everyday! Effort to deliver it to you fresh from an average of 5 batches.
  - Latest Harvested Date: Sun Jul 26 2020
  - Latest Packhouse Received Date: Mon Jul 27 2020
  - Cold Chain Maintained: Yes
- FOOD SAFETY:** Trusted Safety. Your product has the below standards of compliance.
  - Product Integrity
  - Process Integrity
  - Product Handling Method: Triple Washed, Visually Inspected
- SUSTAINABILITY:** More than just a product. Sustainable product methods used.
  - Composting
  - Crop rotation to ensure soil health
  - Integrated Pest Management
- COMMUNITY:** Transforming Rural Lives. Your purchase helps.
  - She Trades: 6 out of 7 farmers are women
  - Foster Knowledge: Your purchase helps to improve education of 5 children
  - Economic Development: 7 out of 7 farmers have bank accounts

# Tracified Reports

Tracified has its own report generation functionality implemented within the system itself. Reports that have been created through the in-built report generator are produced to the AFSA or to the Exporter and those include;

- Reports in terms of quantity of production.
- Reports in terms of quality of production.
- Reports in terms of efficiency of production.
- Reports of ratings and feedback.
- Reports of recalled products.

**TOTAL PRODUCT RECALLS**

 **Tracified** 

**2021**

Report - Total Recalled Quantities per exporter  
29/04/2021 - 29/05/2021

Exporters			
Exporter	Batch ID	Total Recalled Quantity	Recalled Reason
Exporter 001	3400	<b>2500</b>	Damaged
	4000	<b>2500</b>	Damaged
	3400	<b>2500</b>	Damaged
	4000	<b>2500</b>	Damaged
	3400	<b>2500</b>	Damaged
Exporter 123	4000	<b>2500</b>	Damaged
	3400	<b>2500</b>	Damaged
	4000	<b>2500</b>	Damaged
	3400	<b>2500</b>	Damaged
Exporter 456	4000	<b>2500</b>	Damaged
	3400	<b>2500</b>	Damaged
	4000	<b>2500</b>	Damaged
	3400	<b>2500</b>	Damaged

AFSA 29 May 2021, 08:54 AM 

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# How it Works

Tracified powered by Blockchain technology facilitates a tamper proof platform that streamlines the data flow within a supply chain, introducing a novel crypto-economic model, based on a reward/penalty concept, ensuring fair distribution of gains across the chain.

Tracified is designed and developed in a way to capture data from a business's available data sources (i.e. ERPs, SCMs), IoT devices or data recording mobile apps (such as Tracified Field Officer app). The data to be captured, the stages through which an item goes and what data is shown to the customer can be configured through the Tracified Configurations Portal. This makes Tracified a 100% configurable product that satisfies the business needs.

# Conclusion

The objective of this project was to implement a technology solution that may allow AFSA to gather insights into the scalability of the traceability pilot system across the entire value chain in the country. As the demand on the ICT-based food safety and traceability solutions are growing, the ADB will expand this project to similar companies in Azerbaijan.