



# Citrus Traceability Project

## Final Report



# Citrus Traceability Project

Citrus Australia partnered with Agriculture Victoria, to conduct a traceability project, to enhance traceability for the citrus industry. The project ran for the duration of the 2022 citrus harvest season. The project was part of a wider Citrus Export Development Project.

Discover more here: [citrusaustralia.com.au/growers-industry/traceability/](https://citrusaustralia.com.au/growers-industry/traceability/)

## PROJECT PARTNERS



Peak Body for Australian Citrus Industry



Victorian Government Funding Partner



Citrus Packer & Exporter



TRUST CODES®

Traceability Technology Provider



Global Traceability Standards Organisation





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*"Traceability gives us that opportunity to really define where the product may have been sent from, be it a farm or a packing shed that has been involved in the supply chain. We need, ultimately, to be able to respond to foodborne illness and food fraud issues in a timely manner."*

**NATHAN HANCOCK, CEO**







*"MFC sources fruit from over 120 growers in south eastern Australia and we export to approximately 30 countries around the world.*

*As we know, customers are looking for more traceability, and businesses such as MFC are looking for traceability and protection of their product."*

**PERRY HILL,  
GENERAL MANAGER**



# Australian Citrus Industry

The Australian citrus industry is a major Australian fresh horticulture producer, with peak production values of:

- » \$900M annual farm gate sales
- » \$540M export of 304,000 tonnes per year, predominantly to Asia Pacific region
- » 27,000 hectares of citrus, planted in 1300 orchards

## Why is Traceability Important to the Citrus Industry?

- » Protection of Australian citrus against food fraud
- » Improvement of traceability, response times and pinpointing of food sources in potential foodborne illness incidents
- » Tracking product from the farm, through packing and to multiple export markets
- » Engagement with supply chain partners and consumers through scanning interactive labelling
- » Generation of supply chain data for instant issue resolution and long-term business planning
- » Future proofing for regulatory requirements of importing countries
- » Using GSI standards to provide a common traceability data language internationally
- » Identification of traceability pinch points and learnings, to improve traceability across the whole Australian citrus industry





# Project Packer and Exporter

Mildura Fruit Company is one of Australia's largest packers and exporters of fresh fruit, specialising in citrus. They are based in Mildura, Victoria and partner with over 120 Australian growers to export 80,000 tonnes of citrus annually to 30 countries around the world.





# Project Aims:

## Export Traceability for the Citrus Industry

The aim of this project was to implement end-to-end traceability from an Australian packing house, through the supply chain, to consumers in Asia Pacific markets.

Export product traceability was delivered by application of unique serialised GS1 Digital Link-enabled QR code labels to fruit products - cartons for wholesale and bags for retail. These labels could be scanned by any supply chain partner or consumer, with a two-way flow of information back to the packing house. A product cloud was used to integrate, capture and track all traceability data supported by GS1 Digital Link and GS1 EPCIS protocols. A dashboard enabled viewing of data and analytics.

Global GS1 standards provide a common language for traceability across international industry supply chains. Therefore, in this project, GS1 standards were implemented alongside the packhouse's current data to produce a comprehensive set of "Key Data Elements" KDEs in electronic format. This data supports harmonised global data sharing and future-proofing for evolving traceability requirements in Australia and overseas.



*Specialised printing enabled every GS1 Digital Link-enabled QR code label to be unique. After labels were attached to product, labels were activated through scanners. Both steps help avoid food fraud activity.*

## Scan the QR Code

Scanning this QR code with a mobile phone will display an example of the project B2C microsite. The microsite can also be accessed at <https://trustmfc.com.au/2G8gqkj6>





## Unique GS1 Digital Link Enabled QR Codes

The consumer or supply chain partner scans a QR code label with a mobile phone. No specialised app is required. These are unique serialised GS1 Digital Link-enabled QR code labels. The QR code within every label is different, helping to prevent food fraud.

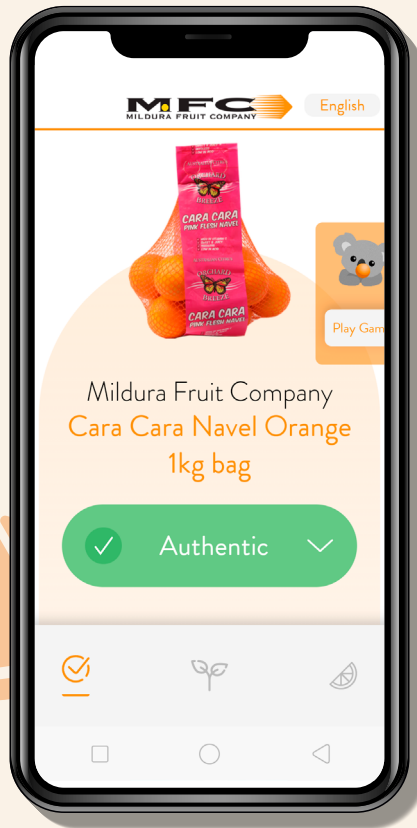
GS1 Digital Link enables sharing of a wealth of product information from multiple locations to supply chain partners, consumers and regulators, via a single scan.





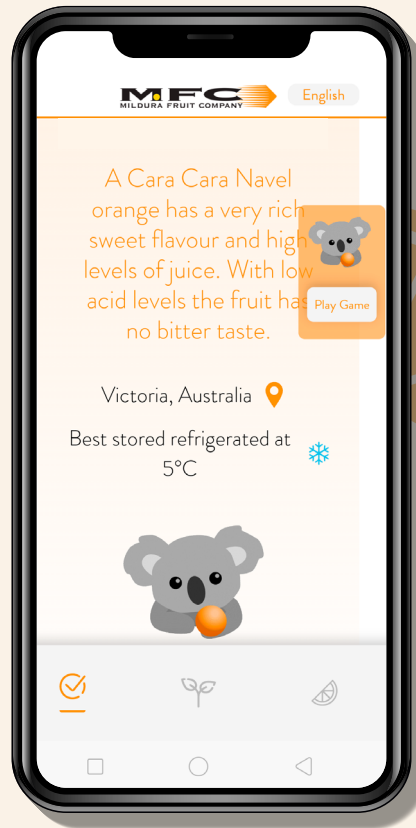
# Microsite Contents

Microsite content is shown here in English and was translated into other languages for key export markets.



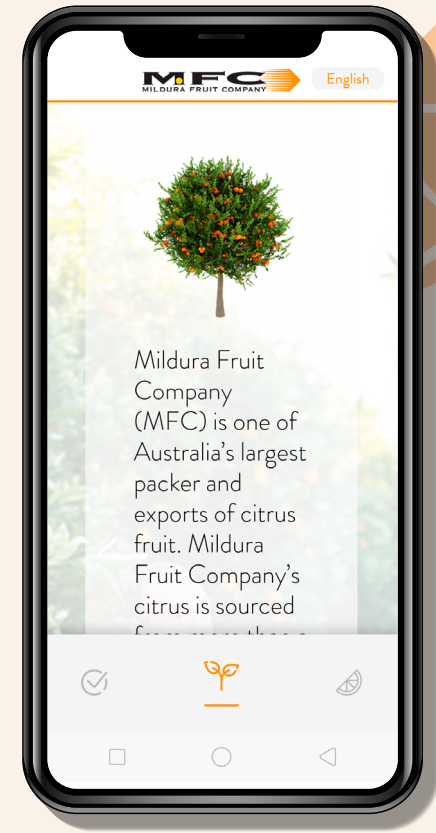
## Authentication

Authentication demonstrates that each product is genuine. This combats food fraud.



## Variety Description and Storage Instructions

Fruit variety descriptions and storage instructions were tailored to the contents of the individual bags or cartons.



## Packer and Exporter Story

The packer and exporter story engages consumers and supply chain partners with the source of their food.

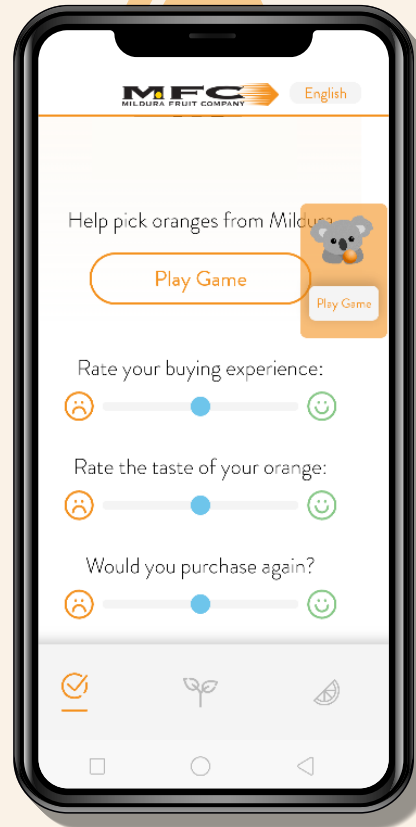


# Microsite Contents (continued)



## Production Region

Images and map showcase the food's origin and highlight 'brand Australia'.



## Survey

Surveys enable two-way flow of information between the consumer and producer.



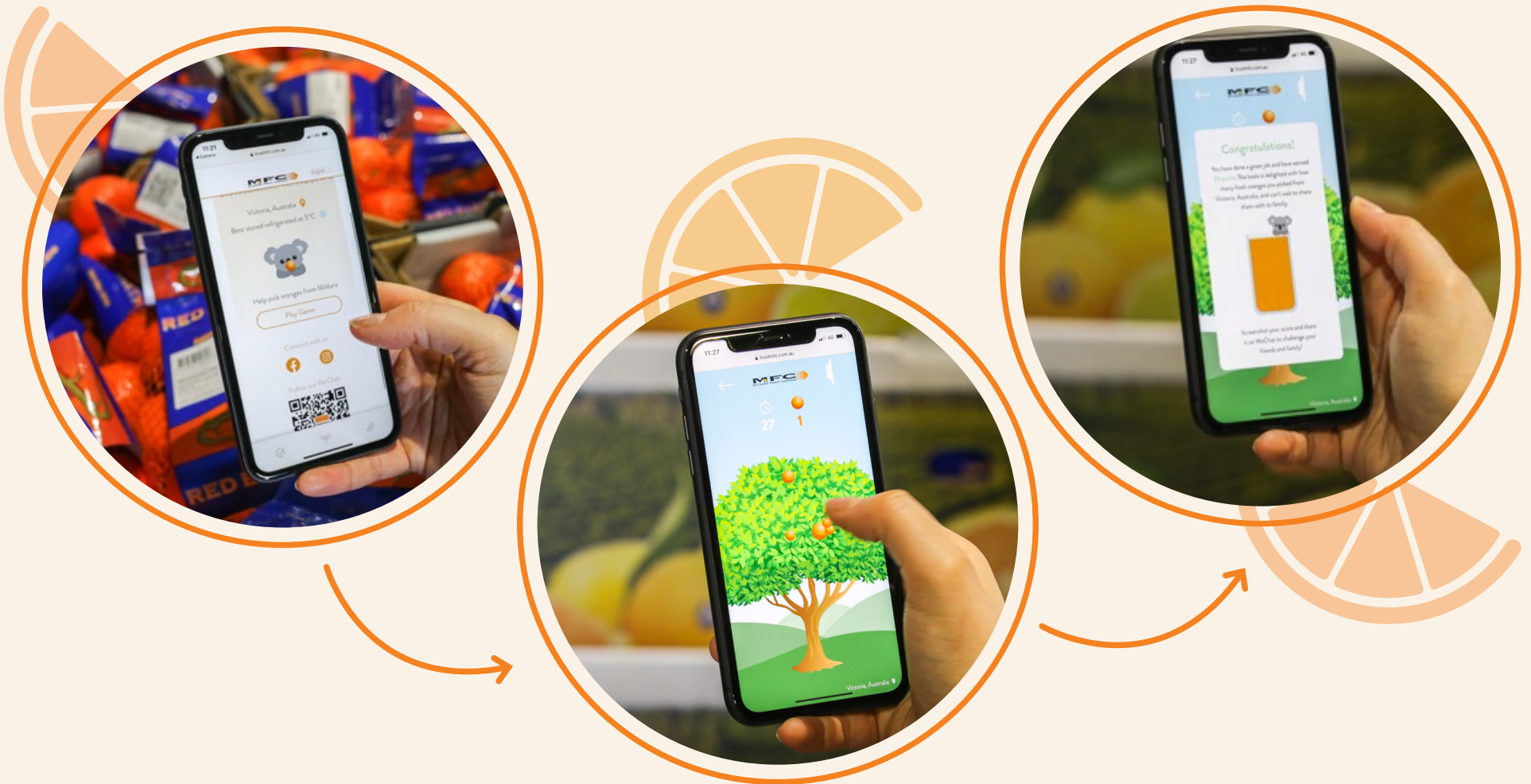
## Links

Links were established to

- Farm website
- Peak Body website
- Serving Suggestions (hosted on Peak Body website)

# Microsite Game

A game was included in the microsite for consumers and supply chain partners. Participants could 'help pick oranges from Mildura' and compete for a high score. This gave the opportunity to increase engagement, offer promotions and prizes for high game scores and to foster sharing through social media. Importantly the inclusion of a game also makes the microsite very hard to copy, increasing brand protection against food fraud.



# Product Cloud, Platform and Dashboards

The Trust Codes product cloud was used to integrate, capture and track all traceability data supported by GS1 Digital Link and GS1 EPCIS protocols. Access to the dashboard was provided to the packhouse and select participants to view data and analytics.

## DASHBOARD CONTENTS

Product	Batch	Date	Location (PI)	Browser	Status	Ticket ID
All		2022-12-15 12:15:16	...	...	authentic	16264015
Allurean Bag Vietnam	22221	2022-12-15 12:09:16	...	...	authentic	16264015
Allurean Bag Vietnam	22221	2022-12-15 12:09:16	...	...	authentic	gKX9FD8H
Allurean Bag Vietnam	22221	2022-12-15 12:08:57	...	...	authentic	gKX9FD8H
Allurean Bag Vietnam	22221	2022-12-15 12:08:56	...	...	authentic	gKX9FD8H
Allurean Bag Vietnam	22221	2022-12-15 12:08:51	...	...	authentic	gKX9FD8H
Allurean Bag Vietnam	22221	2022-12-15 12:08:51	...	...	authentic	gKX9FD8H
Late Lane Bag Vietnam	22251	2022-12-15 06:46:06	...	...	authentic	16264015
Late Lane Bag Vietnam	22251	2022-12-15 06:46:05	...	...	authentic	16264015

Raw Scan Data

TRUST CODES

Midlane Fruit Company

Home

Analytics

Market Overview

Timeline

Batches Overview

User Rotation

Products

Production Report

Codes

Platforms

Raw Data

Alerts

Logistics

Logistics Trace

Logistics Region

Logistics Date

Billing Report

Production Report

Select date range:01/06/2022 - 31/10/2022

Refresh

Export current page to CSV

Export all to CSV

Product	SKU Code	GTIN	Lot Number	Production Line ID	First Print	Last Print	MPD	Use By Date	Quantity
All									
Late Lane Bag Vietnam	09313304000087	22271	2022-09-28 12:01:50		2022-09-28 12:01:50	2022-09-28 12:01:50	-	6845	
Late Lane Bag Vietnam	09313304000087	22269	2022-09-26 09:46:45		2022-09-26 12:31:21	2022-09-26 12:31:21	-	607	
Late Lane Bag Vietnam	09313304000087	22264	2022-09-21 12:17:47		2022-09-22 05:06:14	2022-09-21 12:17:47	-	73	
Late Lane Bag Vietnam	09313304000087	22263	2022-09-20 02:18:19		2022-09-20 22:54:52	2022-09-20 02:18:19	-	11142	
Late Lane Bag Vietnam	09313304000087	22262	2022-09-19 10:17:47		2022-09-20 01:57:49	2022-09-19 10:17:47	-	10377	
Late Lane Bag Vietnam	09313304000087	22261	2022-09-18 14:57:12		2022-09-18 23:48:06	2022-09-18 14:57:12	-	1465	
Late Lane Bag Vietnam	09313304000087	22260	2022-09-17 08:20:06		2022-09-17 12:00:00	2022-09-17 08:20:06	-	5462	
Late Lane Bag Vietnam	09313304000087	22259	2022-09-16 10:58:08		2022-09-16 22:27:38	2022-09-16 10:58:08	-	5853	
Late Lane Bag Vietnam	09313304000087	22258	2022-09-15 10:58:09		2022-09-16 02:00:00	2022-09-15 10:58:09	-	4772	
Allurean Bag Vietnam	09313304000019	22258	2022-09-15 02:01:02		2022-09-15 12:04:41	2022-09-15 12:00:00	-	895	

Total: 84

10

Home / page

1

2

3

4

5

6

7

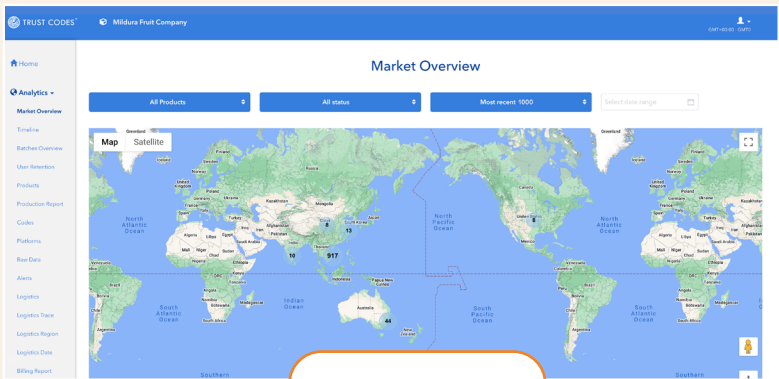
8

9

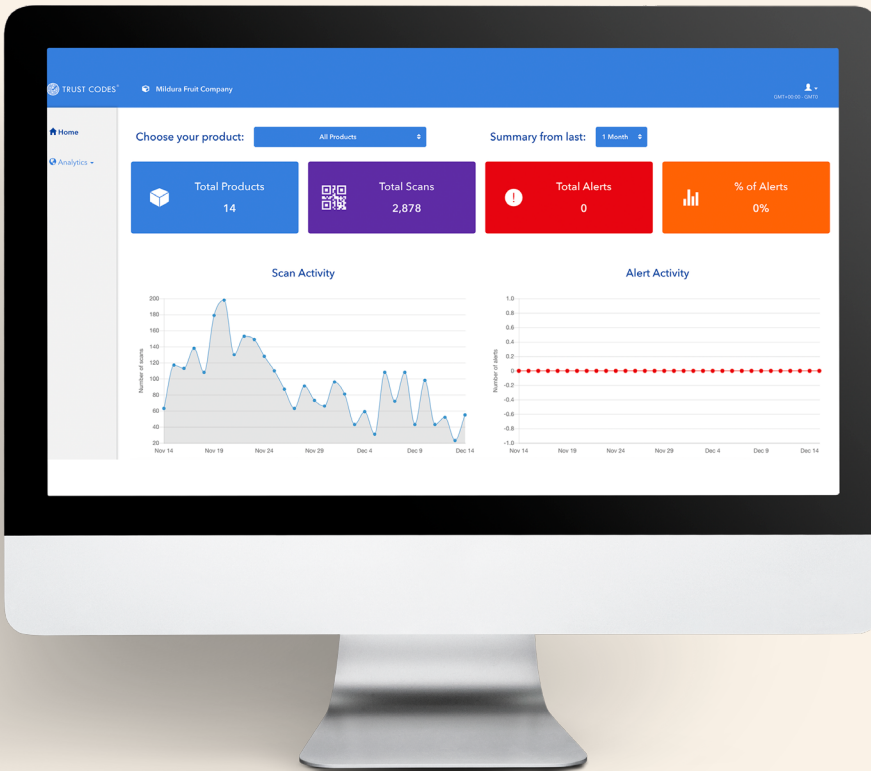
+

Production Report

Production Report




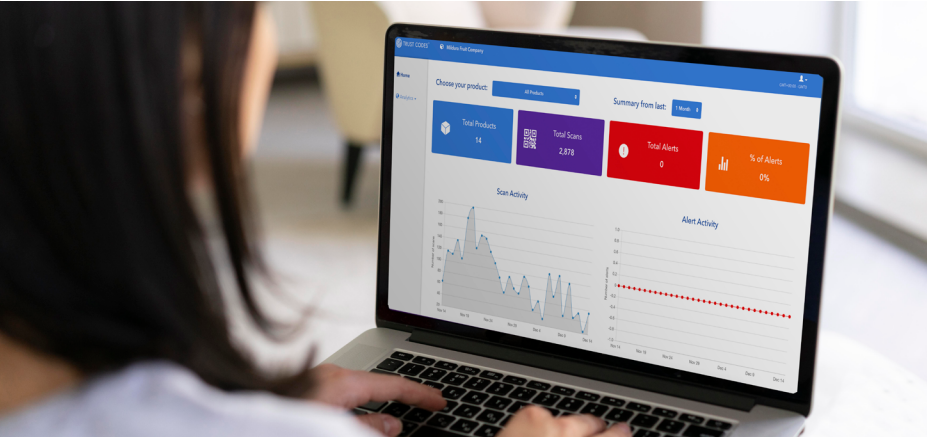
Market Overview



Home Page

# Data Revealed versus Data On Record

Data privacy is a common concern when sharing traceability information with supply chain partners and consumers. Businesses have control over their data. Businesses can choose the data they wish to reveal through the mobile phone microsite. Other information can be kept on record, behind the scenes, in the product cloud and accessed by the business through the dashboard.

Data Revealed	Data On Record
	
Unique serialised GS1 Digital Link QR codes on product enable scanning and access to a B2B microsite (wholesale product) or B2C microsite (retail product).	A product cloud captures all product traceability data and this is available to view through a dashboard at the packhouse.
Everyone in the supply chain from farm to consumer can authenticate product origin and engage with the brand via phone scan.	GS1 standards are used for traceability data.
Privacy is ensured through controlled data reveal.	Unit and pallet codes support inventory management.
B2B microsite data may include information such as storage needs, certification, food journey, expiry dates and marketing.	Scan data supports anti food fraud brand protection.
B2C microsite data may include information such as marketing, promotions and feedback surveys. There is two-way flow of information, with surveys and scan data providing information back to the producer.	Survey data from consumers can be used for marketing and product development.
Product alerts including food fraud notifications or recalls may be activated through the microsite. (No food fraud notifications or recalls were activated within this project.)	Electronic traceability data can be used for instantaneous regulatory compliance in times of crisis e.g. recalls.



# Set Up Phase Summary

A summary of the hardware and integration for the traceability project at Mildura Fruit Company is outlined below.

Item	Delivered
Varieties, SKUs	5 citrus varieties across 11 SKUs (bags, cartons)
Countries	Vietnam, China
Label Codes	GS1 Digital Link enabled QR codes
Printing	Due to a full season's availability of label film at MFC during the project, labels were pre-printed, then scanned on site to activate.  Markem-Imaje printers were then installed for in-line printing next season.
Scanners	Matrix 220 (Datalogic) scanners for baggers 1,2,3
Product Cloud, Platform and Dashboard	The Trust Codes product cloud was used to integrate, capture and track all traceability data supported by GS1 Digital Link and GS1 EPCIS protocols. Access to the dashboard was provided to MFC to view data and analytics.
Microsite (Mobile Web App)	B2C, B2B versions. Game design and integration. Translations: Mandarin, Vietnamese
Fruit & Supply Chain Data	Key Data Elements (KDEs), Critical Tracking Events (CTEs). Correlation with USFDA rule and GS1 standards
Prepack Line Expansion	Installation and commissioning of Lines A and B

Future opportunities include developing further integration with farms and transport and creating a virtual pallet packing user interface.

# Marketing

Marketing programs were conducted in China and Vietnam, the key export markets for fruit in the project. Marketing programs aimed to build brand awareness, foster consumer engagement, enhance fruit sales and increase QR code scan rates.

## MICROSITE GAME

The microsite game was an integral component of the marketing strategy, created so that consumers could play competitively, win prizes and recommend the site among their networks. See the earlier microsite game report page for details.

## CHINA MARKETING

The following strategies were used for marketing to consumers in China:

**WeChat** is a Chinese instant messaging, social media, and mobile payment app. In 2018 it became the world's largest standalone mobile app, with over 1 billion monthly active users. WeChat has been described as China's "app for everything" because of its wide range of functions.

**GoGlobal** is a digital marketing services and E-commerce solutions for multinational companies and brands in the Chinese market. Its services include brand design, E-Commerce & web app development, social media, digital advertising and influencer marketing. Go Aussie is a GoGlobal channel on WeChat specifically for Australian companies and brands to promote their products / stories. It is a channel to communicate directly to consumers in China / on WeChat with a specific interest in Australian products.

An official Mildura Fruit Company (MFC) WeChat Account was established, verified and managed. A series of posts, headline advertorials and visual banners were created and released. The first post released via the MFC WeChat official account, and reposted through the "Go Aussie" account, had a Total Impression (exposures) of over 22,000. This included boosting effects through reposts by key opinion leaders (influencers), which were free and occurred organically.



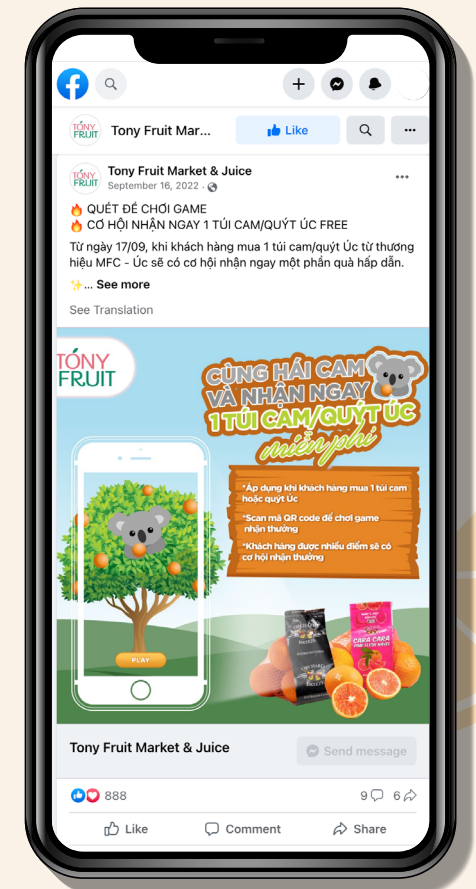
# Vietnam Marketing

**Tony Fruit** is a distributor of high-quality imported fruits in Vietnam. They delivered a marketing program consisting of:

## Multiple taste testing sessions in Vietnamese supermarkets



## Social media posts



# Project Results

**Duration** Product labelling and scanning occurred during June – November 2022

**Fruit Varieties** 5 citrus varieties (11 SKUs) citrus varieties were labelled. Tailored information for each variety was displayed through the microsite.

Labelled Fruit Units	
Total activated labels on products – bags (retail)	583,787
Vietnam	583,787
China	0
Other	0
Total activated labels on products – cartons (wholesale)	50,000
Vietnam	0
China	50,000
Other	0

Label Scans	
Scans – bags (retail)	8,338
Scans – cartons (wholesale)	434
Total scans	8772
Scan rate – bags (retail)	1.43%
Scan rate – cartons (wholesale)	0.87%
Total scan rate	1.16%
Unique users (consumers or supply chain partners performing scans)	3820

**Scan rate calculation note:**

Retail bags: 583,787 labels with 8,338 scans = scan rate of 1.43%

Wholesale cartons: 50,000 labels with 434 scans = scan rate of 0.87%

Percentage of Scans per Market	
Vietnam	82.18%
China	10.89%
Smaller volumes were distributed and scanned in 15 other countries	

Microsite Consumer Feedback Survey	
Total surveys completed	77
Rate your buying experience (average out of 5)	3.76
Rate the taste of your orange (average out of 5)	3.97
Would you purchase again? (average out of 5)	3.43

Microsite Game	
Game user total	324
Game average score	122
Game highest score	186



# Future-Proofing for Traceability Regulations

**Embracing traceability is a priority for the citrus and other horticulture industries due to increasing regulation by importing countries.**

The new US FDA Food Traceability Rule is likely the most comprehensive set of traceability regulations internationally at present and therefore was used as the basis for data compilation and functionality within the project. The rule requires compliance by key food supply chain businesses undertaking “Critical Tracking Events” CTEs to record “Key Data Elements” KDEs. Businesses need to provide traceability back to the farm within 24 hours in an electronic format.

<https://www.fda.gov/food/food-safety-modernization-act-fsma/fsma-final-rule-requirements-additional-traceability-records-certain-foods>

The US FDA Food Traceability Rule is an important example of traceability regulations that may be replicated by other importing countries. GSI consultation informed the design of the US FDA Food Traceability Rule, and GSI standards are nominated by the World Trade Organisation. [https://www.wto.org/english/res\\_e/publications\\_e/standtoolkit22\\_e.htm](https://www.wto.org/english/res_e/publications_e/standtoolkit22_e.htm)

Therefore, in this project, GSI standards were implemented alongside the packhouse’s current data to produce a comprehensive set of “Key Data Elements” KDEs in electronic format.

Key Data Element	GSI Standard
Where	GLN Global Location Number – Packing House
What	GTIN Global Trade Item Number – Product Unit
	SSCC Serial Shipping Container Code – Logistic Unit
Data Storing and Sharing	EPCIS 2.0 Electronic Product Code Information Services
Data Access	GSI Digital Link: B2B and B2C connections through scanning QR codes

Global GSI standards provide a common language for traceability across international industry supply chains. The GSI Fresh Fruit and Vegetable Traceability Guideline correlates with traceability implementation within the project. [https://www.gsi.org/docs/traceability/Global\\_Traceability\\_Implementation\\_Fresh\\_Fruit\\_Veg.pdf](https://www.gsi.org/docs/traceability/Global_Traceability_Implementation_Fresh_Fruit_Veg.pdf)

# Traceability Key Data Elements KDEs

The table below provides an example set of “Key Data Elements” KDEs from the project.

Location	Key Data Elements (KDEs)	Mildura Fruit Company Usual Data Format	GS1 Standards	GS1 Standards Data Format Receival	GS1 Standards Data Format Dispatch
Farm*					
Packhouse	Location Identifier		GLN	9377778092553	9377778092553
	Location Description		GLN	9377778092553	9377778092553
	Location coordinates		GLN	9377778092553	9377778092553
Item	Commodity	Mandarin	GTIN	9313336000318	9313336000318
	Variety	Afourer	GTIN	9313336000318 (Afourer Mandarin)	9313336000318 (Afourer Mandarin)
	Logistic Unit identification	MF22012838	SSCC	093133360220230267	093133360220230267
	Trade Item Description	Navel Class 1 - China Orchard Breeze Black	GTIN	9313336000356	9313336000356
	Trade Item Quantity	Fixed weight, not variable	GTIN	9313336000318	9313336000318
	Trade Item Unit of Measure	Wood bin 450kg - FW 1kg		Loose	Pallet
	Batch	22221	Batch provided by MFIS	22221	22221
	Serial Number	(21)	Trust Codes Token	gHKYhn9Z	gHKYhn9Z
	Pallet Number	MF22012838	SSCC	093133360220230267	093133360220230267
Transit	Transit date	11/07/2022	Date/time in UTC		2022-07-11T00:00:00Z
	Transit time	N/A	Date/time in UTC		2022-07-11T00:00:00Z
Logistics*					

\*Due to the scale of Mildura Fruit Company operations, the focus of the project was initially establishing GS1 standards to address key data elements (KDEs) in the packhouse. Harmonisation and linkage across the two adjacent steps in the supply chain, i.e. farms and logistics, present future development opportunities.

# Traceability

*"GS1 standards enable supply chain partners to identify, capture and share information in a globally harmonised way."*

MARCEL SIEIRA, CHIEF CUSTOMER OFFICER






# Communications


An extensive communications program shared the project findings with a range of stakeholders with the aim of building traceability awareness and fostering traceability adoption. Stakeholders included producers in the citrus industry, peak bodies and other horticulture industries, supply chain partners within Australia and overseas, international retailers and consumers, Commonwealth, State and Territory governments, international governments and traceability standards agencies. Communications channels included a webpage, media releases, print articles, videos, social media, presentations and publications by Citrus Australia and Agriculture Victoria. It was agreed by the project team that the communications program had been well organised and had highlighted a good range of personas from the citrus supply chain.

## WEBPAGE

 Citrus Australia - Traceability

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## MEDIA RELEASES

 Citrus Australia leads innovative traceability project for high value exports

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 Getting our food to market—investing in agribusiness

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 GSI Traceability Standard

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## VIDEOS AND SOCIAL MEDIA TILES

 Citrus Traceability Project - Video animation


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 Traceability in Citrus: Voice of Industry


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 Traceability in Citrus: Voice of Exporters

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 Traceability in Citrus: Voice of Technology

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 Traceability in Citrus: Voice of Logistics

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 Traceability in Citrus: Voice of Importers and Retailers

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## PRINT ARTICLES

Citrus Australia articles were shared through a range of publications with an audience of 1400 citrus growers and industry stakeholders.



# Project Evaluation

The project set up and implementation occurred during 2022, and at the end of the season, the project team came together to evaluate the progress and results achieved. Overall, the project was felt to have been a success, and provided an example of traceability implementation that other businesses could follow. The team provided the following key messages:

## BUILDING TRACEABILITY SYSTEMS

The peak body advised industry members to build traceability systems in their businesses now.

*"Don't wait until you have to do this. Implementing traceability systems takes some time, will be specific to your business, and can't be achieved with a fully off-the-shelf solution. Partner with an experienced solution provider and act now before regulations or a crisis incident make traceability a necessity."*

NATHAN HANCOCK, CEO



## PRIORITISING SCOPE

Mildura Fruit Company felt the secret to the project success was to be clear about the project scope, to prioritise the relevant needs of their business and to choose a "bite-sized chunk" of traceability to implement in the first season.

This would then provide the opportunity in future seasons to extend traceability standards and systems to other parts of the business, and coordinate with the supply chain more widely.

## TRACEABILITY DATA AND THE USE OF GS1 STANDARDS

Mildura Fruit Company agreed that collation of traceability data and GS1 standards implementation had been a useful process. It provided a solid foundation for future development, for consolidation with future system changes, and for integration with other supply chain partners including farms and logistics.

The peak industry body highlighted that an agreed international standard is vital for industry and supply chain harmonisation and efficiency. It supports GS1 standards as an example of a consistent and durable traceability standard that can be used across different systems and solution providers.

*"GS1 standards and GS1 codes provide us a common language internationally. And we think it's really important that we have an international standard and adhere to it."*

NATHAN HANCOCK, CEO



*"GS1 is internationally recognized and allows traceability. So GS1 is a really important standard for us to use."*

PERRY HILL, GENERAL MANAGER



## TRACEABILITY SOLUTION PROVIDERS, COSTS AND TIMELINES

Traceability implementation costs and timelines vary dependent on business size and activities. Agriculture Victoria has developed a Traceability Cost Benefit Analysis Calculator to assist with planning.

**Traceability Cost Benefit Analysis Calculator** 

For successful project outcomes, the peak industry body and the packhouse advised working with an experienced solution provider.

### **Steps from this project are provided as a guide for solution provider selection:**

- » Create a project brief
- » Issue a call for quotation (3 weeks' reply time) e.g. GSI can issue your call to providers through their Solution Providers Directory <https://www.gslau.org/what-we-do/solution-providers/>
- » Shortlist, and invite presentations from providers
- » Shortlist again and invite (3?) solution providers on-site individually to tour and discuss
- » Highlight your project scope, business processes, IT systems and supply chain partner arrangements, so suppliers can understand your needs
- » Request final quotations (2 weeks' reply time)
- » Choose a provider
- » Agree a detailed project plan with deliverables, milestone dates and payments
- » Complete and sign contract agreements

### **Other factors to consider for solution providers are**

- » Size and experience of the team
- » On-site availability of the team, particularly the CEO for times of problem resolution
- » In-house versus subcontracting capabilities of the team
- » Costs for set up and annual subscription. A useful costs checklist is provided in the Traceability Cost Benefit Analysis Calculator

### **After solution provider contract agreements are in place, allow 6 months prior to harvest for**

- » Development, implementation, integration, testing and staff training of traceability systems
- » Supply of scanners, printers and other hardware; beware of international supply chain shortages
- » Any required upgrades to your current IT system

**Prior to harvest, the systems should go live, enabling product traceability during the picking, distribution and sales period.**

## LEVERAGING TRACEABILITY SYSTEMS WITH LOGISTICS PARTNERS

The project communications achieved good engagement across a range of industry and government stakeholders. In particular, there was notable discussion from the logistics sector. Differences and challenges at the intersection of producer and logistics traceability systems have emerged repeatedly in the citrus, table grapes and cherries projects coordinated by Agriculture Victoria.

The GS1 standard, Serial Shipping Container Code SSCC, for pallets and containers has variable uptake by producer and logistics sectors. There is great opportunity for harmonisation.

Harmonised use of traceability standards in the logistics sector has the potential to

- » leverage the traceability labelling applied by packhouses
- » enhance product tracking through supply chains
- » drive the delivery of accurate digital export documentation and support international customs functionality

Serial Shipping Container Code SSCC capture can now occur within QR codes. This can support receipting of product throughout the supply chain, particularly with the prevalence of smartphones. QR codes offer a multifunctional source of data capture and sharing, and may include SSCCs, GTINs, GLNs, product information, consumer surveys and regulatory certification.



*"We export to over 40 countries. Traceability helps us with our quality assurance, customs and border security services.*

*Traceability will become an ever increasing fundamental of export."*

**LUKE WATSON, EXPORT MANAGER**



## SCAN RATES

Scan rate – bags (retail) - Vietnam	1.43%
Scan rate – cartons (wholesale) - China	0.87%

Mildura Fruit Company were pleased with the scan rates achieved, noting they were higher and more consistent than previous similar smaller projects involving customer product scanning.

China was originally intended as the primary export market for the retail bags and wholesale cartons. The microsite gamification and retail marketing activities were designed to support scan rates in the Chinese market.

However, the citrus season of 2022 encountered many challenges including Covid 19 lockdowns in Australia and international shipping ports. Damp weather also reduced the amount of fruit produced compared with previous years. Therefore, due to supply chain disruptions, Vietnam was chosen instead as the destination for retail bags. Activation of the game component within the Vietnamese version of the microsite was therefore slightly delayed and retail marketing activities were primarily focused on taste testing rather than encouraging consumers to scan the QR codes. Vietnam fruit sales were excellent, but Vietnamese consumer scan rates, if lower than expected, should be considered within the context of these challenges.

Scanning by supply chain partners on wholesale cartons, was slightly lower than by consumers on retail bags. This is consistent with the experience of the team in previous projects: consumers are more likely to scan than supply chain partners. Introducing standard operating procedures for supply chain partners that include receipt of goods by scanning would increase scan rates.

## FOSTERING TRACEABILITY ADOPTION THROUGH MULTIFUNCTIONAL SOLUTIONS

**Producers often see consumer and supply chain partner engagement through everyday scanning as the main driver for implementation of traceability systems.**

Producers want a channel for two-way flow of information between them and their supply chain partners and consumers. They want to track their produce, provide storage instructions, provide authentication, showcase their product features, build brand engagement and obtain feedback for quality management and product development. Major retailers who implement these systems across their own brands, have the same aims.

As they seek traceability implementation, governments, peak bodies, standards agencies, retailers and solution providers are encouraged to understand and accommodate producers' primary desire for everyday two-way engagement with supply chain partners and consumers. Secondary drivers such as new regulation requirements, food safety incidents and biosecurity outbreaks, may occur infrequently to individual producers and may not be front of mind. To satisfy all stakeholders, solutions such as QR code labels should deliver multifunctionality – consumer and supply chain engagement for producers, point of sale pricing, regulatory certification, harmonised data standards and recall capability. When the needs of producers and all those invested in supply chains are efficiently met, traceability uptake is likely to be greatest.





# Project Partners

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Citrus Australia is the prescribed national peak industry body for citrus growers. It is a not-for-profit company limited by guarantee with a skills-based board. Based in Mildura, Victoria, the reach of the company's networks expands to all corners of the country and into the international citrus community including researchers, traders and growers in significant production areas around the globe.

Citrus Australia brought together project partners, provided project management and led communications for stakeholders in the citrus industry and beyond.

**Key Project Personnel: Nathan Hancock, Stephen Cooke, Gabrielle Torpey**



Agriculture Victoria is a state government organisation and works in partnership with farmers, industries, communities and other government agencies to grow and secure agriculture in Victoria. Victoria is Australia's largest producer of food and fibre products, and these make up over half of Victoria's total product exports.

Agriculture Victoria provided funding for the project from its Food to Market Program. The Food to Market Program supports businesses and organisations in the agri-food supply chain to help them undertake projects that invest in and improve supply chains. Agriculture Victoria provided project management, regulatory insights and communications support.

**Key Project Personnel: Caroline Barrett**



Mildura Fruit Company (MFC) began operation over 100 years ago as the Mildura Co-operative Fruit Company. Since then, they have grown to become Australia's largest packer and exporter of fresh citrus.

Decades of growing, packing and marketing experience have equipped them to be leaders in packing and marketing to the world. Their world-class packing facility is able to pack approximately 3000 cartons per hour. MFC have invested heavily in grower services, providing timely world leading information to their grower base to enhance the quality of fruit.

MFC packs and markets a large range of citrus varieties from more than 120 growers in the horticultural regions of Sunraysia, Riverland and Riverina to destinations around the world.

MFC has built a reputation for high quality in export markets, especially in China. MFC is the sole licensee of the Sunkist brand from Australia into the Asia Pacific region. Maintaining B2B and B2C customer confidence is crucial. Brand fraud and food safety issues were the motivation for MFC's involvement in the fruit traceability project.

MFC were the packhouse for the project.

**Key Project Personnel: Perry Hill, Stuart Monger, Marcus Scott, Nicole Alicastro, Michael Morey**

# Project Partners

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## TRUST CODES®

Trust Codes provides brand protection, end-to-end traceability and consumer engagement based on a unique QR code, acting as a license plate for each and every item. Connecting brands to consumers, the use of a unique QR code enables transparency and traceability through a products lifecycle. Trust Codes leverage advanced algorithms and machine learning to protect authenticity and brand value through predictive analytics. Data-driven storytelling allows visibility of the journey for each item through the supply chain to the consumer's hands. Trust Codes works with their customers to create world leading UX design for the delight of their customers, creating a meaningful and trusted relationship between the brand and those that purchase their products.

**Key Project Personnel: Paul Ryan, Emma Wheeler, Libby O'Toole, Ken Yang, Ricci Ferigo**



GS1 Australia is the leading provider of the most widely used global supply chain standards and services for over 25 industry sectors to improve efficiency, safety and visibility of supply chains across physical and digital channels. GS1 enables more than 22,000 Australian member companies, of all sizes, to become more competitive by implementing the GS1 system. GS1 standards are nominated by the World Trade Organisation. GS1 traceability standards were used within the project.

GS1 Digital Link is a GS1 standard that is used by companies to connect a wealth of product information from multiple locations to consumers, retailers, regulators, patients, clinicians and more, from a single scan.

EPCIS 2.0 is a GS1 standard that achieves granular transparency of products throughout their lifecycle, from manufacture and distribution to their end destination for enhanced traceability.

**Key Project Personnel: Marcel Sieira, Tracey Kelly-Jenkins**

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