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## **2D in Retail Advisory Group** Advancing practical implementations

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Jenny Keegan – Woolworths, Francesco Oliveri, Perfection Fresh Australia

Meeting #15, 24<sup>th</sup> July 2024



# Acknowledgement of our country



**2DBarcodes** | Advancing practical  
RETAIL ADVISORY GROUP implementations

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*We acknowledge the traditional custodians of the lands on which we meet today, and pay our respects to their Elders past, present and emerging.*

*We extend that respect to Aboriginal and Torres Strait Islander peoples joining us today.*

# GS1 Australia Competition Law Caution

GS1 operates under the GS1 Competition Law Caution. Strict compliance with competition laws is and always has been the policy of GS1.

The best way to avoid problems is to remember that the purpose of the group is to enhance the ability of all industry members to compete more efficiently.

This means:

- **There shall be no discussion of prices, allocation of customers, or products, boycotts, refusals to deal, or market share**
- If any participant believes the group is drifting toward impermissible discussion, the topic shall be tabled until the opinion of counsel can be obtained.

The full Australia caution is available via the link below, if you would like to read it in its entirety: <http://www.gs1.org/gs1-competition-law-caution>

# Meeting Etiquette

**Introduce Yourself**  
When asking a question

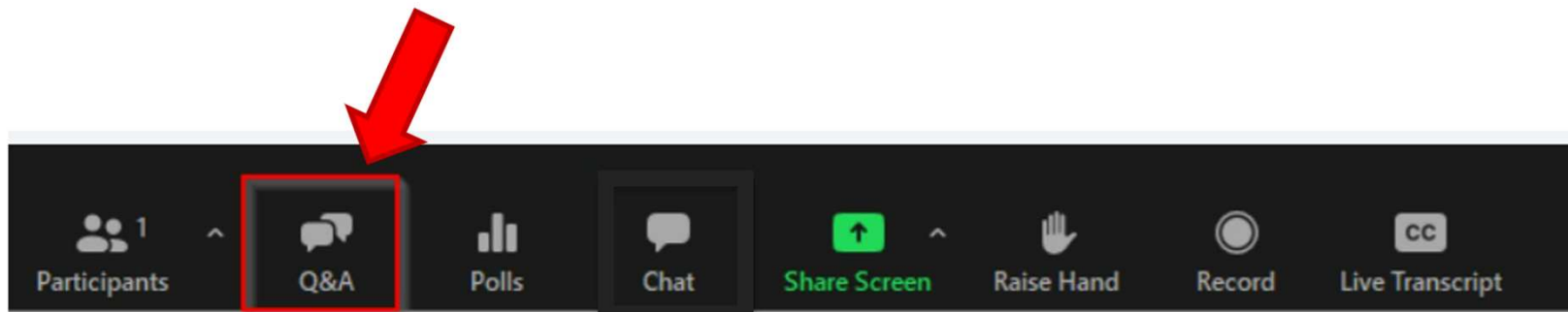
**Be considerate**  
Silence phones  
Keep comments concise

**Be collaborative**  
Ask questions  
Be open to other views

**Be professional**  
Speak on company's behalf

# Questions

**Please use the Q&A button in the bar at the bottom of your screen to submit questions. Chat function is disabled.**



# Actions from previous meeting

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## WAITING ON A RESPONSE FROM GS1 KOREA

- What is the rejection rate for these bottles which have the QR Code printed on the bottle cap?
- Any feedback from Korean retailers who are scanning these bottles at POS?



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## Global Update

- 2D in Retail Implementation guideline
- Work Request for 2D use in General Distribution
- Global Call-to-Action and Retailer Update

## Local Update

- New 2D Team Members
- 2D Technical Working Group Update
- Supplier Implementation – One Harvest
- Retailer Implementation

## General Business

- Next Meeting Date – Wednesday 27<sup>th</sup> November



# 50<sup>th</sup> Scanniversary of the Barcode



## [GS1 Australia 50 Year Campaign Sizzle Reel](#)





# 2027

When all retail point-of-sale systems will aim to scan 2D Barcodes, worldwide.



# The 2D Barcode Options for Retail Products

GS1 DataMatrix with  
GS1 Element String



Best for those that need **more data**, but are not enabling a consumer experience

QR Code with GS1  
Digital Link URI



Best for those that are enabling a **consumer experience**

Data Matrix with  
GS1 Digital Link URI



Best for those that are enabling a consumer experience, **but cannot fit a QR Code on-pack**

# Key Points on Barcode Options



## For Brands

**If moving to 2D, you can pick which 2D barcode makes sense for you.**



## For Retailers

**All three 2D barcode options must be turned on across retail systems**



## For Both

**1D barcode options are not going away. They can still be used by brands and will remain options in retail systems**

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## Global Update

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## 2D in Retail Implementation Guideline

Steven Keddie – GS1 Global Office  
Aruna Ravikumar – GS1 Australia

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# Retail Sectors



**Regulated  
HC Retail  
POS Items**



# Mission-specific Working Group: 2D in Retail

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## Scope

Develop a GS1 standards-based approach on how 2D barcodes\* will function in open global retail supply chains alongside today's linear barcodes, addressing all user needs

- \* GS1 DataMatrix
- \* QR Codes with GS1 Digital Link URI
- \* Data Matrix with GS1 Digital Link URI



# Mission-specific Working Group: 2D in Retail

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MSWG began January 2022

1. Business requirements
2. Industry Agreements for
  - a. 2D barcodes... their conformance requirements... data structures
  - b. HRI
  - c. Multiple barcodes
  - d. Barcode placement
3. 2D in Retail Implementation Guideline



Published May 2024



100 industry members and 45 MO countries  
(207 total in MSWG)



# How to use the guideline with stakeholders

## Section 1-4 → [General guidance](#) for **ALL**

- Executive summary & guiding principles
- Barcodes, syntaxes and identification
- 2D barcode optimisation, printing, scanning and processing

## Section 5 → **Brand owners and manufacturers**

- Roles & getting started
- Use cases
- 2D barcode selection, printing and placement



## Section 6 → **Retailers**

- Transitioning to 2D barcodes & roles
- Barcode data
- 2D barcode selection, printing and placement



## Section 7-8 → **AIDC Solution Providers**

- Collaboration & tools
- 2D barcode encoding, printing, scanning and quality





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## Global Call-to-Action

Andrew Steele – GS1 Australia

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# A push by the world's largest brands is underway to migrate to GS1 Powered QR codes under the Consumer Goods Forum



Jon R. Moeller  
Chairman of the Board, President  
and Chief Executive Officer

October 23, 2023

Product Data Coalition – Transition to 2D Barcodes with GS1 Digital Link

CGF Board of Directors,

As shared in the April Coalition Impact Session and June Board meeting, enabling a successful industry transition to 2D barcodes on our product packages has become a primary focus of the Product Data Coalition. The purpose of this letter is to share why this transition is critical for our industry, explain the benefits, and importantly, help you understand the role you play to ensure its success.

#### Background

In the early 1970s, retailers and manufacturers worked together to adopt the Global Trade Item Number (GTIN, also known as EAN or UPC), encoded into a linear 1-dimensional barcode as the standard way to identify products globally. The barcode used on today's packaging is great for enabling processes like scanning at checkout, category management, fulfillment in DCs, and demand and replenishment planning. However, it doesn't have the capacity to support the future needs of our industry.

Today, consumers demand more information about the products they're purchasing, regulators require the disclosure of more information to consumers – ingredients, nutrition, safety, environmental sustainability, etc. – and there's an ongoing need to more effectively track and trace products through the supply chain to mitigate risks and improve customer service. As a result, a proliferation of new barcodes is emerging. For example, brands are adding QR codes to drive consumer engagement and comply with new regulations while keeping 1D barcodes on-pack for scanning at the checkout. This can lead to consumer and store operator confusion, cluttered packaging, and additional cost and complexity in the manufacturing process.

We can resolve this with the 2-dimensional barcode with GS1 standards inside – a single bar code that has the power to provide all the information consumers need and desire, improve traceability through the supply chain, and scans at checkout.

#### Next generation barcodes: 2D Codes powered by GS1 Digital Link

2D barcodes are far superior to 1D barcodes due to their capacity to hold significantly more data and their resiliency to damage. They also provide a better consumer experience. When a 2D barcode is encoded based on the open GS1 Digital Link standard, it enables the code to be scanned by a smartphone, allowing consumers to be directed to a brand or retailer web page for more information about the product as well as be scanned at checkout. Brand owners and retailers can also choose to encode additional data in the 2D barcode – product expiry date, lot number, serial number, etc. – to support supply chain optimization. This isn't possible with today's 1D barcode at such a granular level.

The activation of 2D barcodes will happen in phases as there will be some technological investment and process change required. For example, products in the perimeter of the store that have real-time labeling processes will be able to encode additional data like expiration date into the 2D barcode whereas center store products that primarily use pre-printed packaging labels will require new manufacturing line technology to print these codes with expiration date included.

The Procter & Gamble Company  
One Procter & Gamble Plaza, Cincinnati, OH 45202



“Enabling a successful industry transition to 2D barcodes on our product packages has become a primary focus of the CGF Product Data Coalition”

**Jon R. Moeller**  
Chairman of the Board, President and Chief Executive  
Officer  
Procter & Gamble



# Global Call-to-Action for the Transition to QR Codes with GS1 Standards

The retail and consumer goods industries support the transition to QR Codes with GS1 standards



Placing QR Codes with GS1 standards on product packages worldwide will enable manufacturers and retailers to provide new powerful digital experiences, engaging consumers and shoppers as they interact with products—whether in store, at home or out in the world.

#### From GS1 barcodes to QR Codes with GS1 standards

This year marks the 50th anniversary of the first product barcode to be scanned in a grocery store. In the early 1970s, retailers and manufacturers worked together with GS1—the global organization for data standards—to adopt the barcode as the universal way to identify products. The GS1 barcode is used today on billions of products worldwide and is great for enabling many processes like scanning at checkout, category management, fulfillment in distribution centers, and much more.

Today, more than ever, consumers and regulatory bodies are demanding more product information, such as usage instructions, safety, ingredients, nutrition, certifications, recycling, etc.—and there is an ongoing need for enhanced product traceability through the supply chain to mitigate risks and improve customer service. However, the traditional barcode that has served us so well doesn't have the capacity to support these future needs.

To meet these new demands, the consumer goods industry will be best served by transitioning to QR Codes with GS1 standards, as they can store extensive amounts of product information and are easily accessible via smartphones. This would open a range of new possibilities, providing all the information consumers need and desire, improving traceability and driving efficiencies through the supply chain, while still enabling scanning at check out.

#### Sunrise 2027 initiative

The signatories of this letter join the members of the GS1 Management Board in declaring their support for the transition to QR Codes with GS1 standards.

The companies of the GS1 Management Board aligned it would be essential for the overall success of the industry to transition to QR Codes with GS1 standards as an innovative and forward-looking response to today's business and consumer needs. The aim of this initiative is that, by the end of 2027, QR Codes with GS1 standards should be widely adopted, used by manufacturers on their product packaging and retailers around the world having the ability to scan these barcodes at Point of Sale (POS).

For Sunrise 2027 to succeed, industry must once again come together to adopt a unified approach, requiring changes from both retailers and manufacturers. We expect that this transition would happen gradually and believe that those that lead this transformation will be best positioned to unlock valuable new capabilities and provide more benefits to their customers, shoppers, and consumers.

#### Together, let's start the transition to QR Codes with GS1 standards now!

This major industry shift has already begun, with pilots in 48 countries across all regions and representing 88% of the world's GDP. This is a strong foundation, and a collective effort is now needed from the entire industry to make Sunrise 2027 happen:

- **Manufacturers** should start implementing QR Codes on product packages with GS1 data standards inside.
- **Retailers** should ensure POS scanners are equipped to read QR Codes with GS1 standards.



To learn more about QR Codes with GS1 standards and get involved, go to: [www.gs1.org/2D-barcodes](http://www.gs1.org/2D-barcodes)

<sup>1</sup> Read GS1 Competition Law Caution [here](#)

 Gerhard von der Bee Chief Technology Officer, Albert Heijn	 Gang Yu (Gangyu) Chief Technology Officer, Taobao & Tmall Group (Alibaba Group)	 Huihua Ngai Group CEO, AS Watson Group
 Yves Claude Chairman & CEO, Auchan Retail	 Francesco Del Porto Global Chief Customer Officer & President Region Italy, Barilla Group	 Alexandre Bonnard Chairman and CEO, Carrefour
 Pradi Mangthikulchai Vice President, Purchasing, CP ALL Thailand	 Dr. Simon Rippey Head of Logistics Division, De Olieven	 John Rose, President & CEO, USA Mark Batenic, Chairman, IGA
 Simon Han Vice President, JD.com, President, Department of Ecosystem Service, JD Retail	 Peter Fischer Member of the Board, L'Oréal International	 Nicolas Hieronimus CEO, L'Oréal
 Flibe Cheng COO, Tropic (Cristian Islands) Holding Corp. (Cristian Hong Kong)	 Pengcheng Li Executive President, Mengniu Group	 Bernhard Huber CFO, Metro
 O. Oguz Tuzel CEO, Migros, Switzerland A.S.	 Silvio Baglini Vice President & Managing Director Italy, Mondelēz International	 Barbara Oulbarme-Debbash Executive Vice President, Group Human Resources & Business Services, Nestlé
 Jon B. Hoeller Chairman of the Board, President & CEO, The Procter & Gamble Company	 Olivier Delenda CEO, Savencia Fromage & Dairy	 Mark Smucker President, CEO & Chair of the Board, The J.M. Smucker Co.
 Shuyuan Yun Vice President, Tsingtao Beer Group, President, Supply Chain, Tsingtao Beer	 Shaohua Meng Vice President, Wuliangye Shuanghui Development Co., (WH Group)	 Zhumei Yun Vice President, Yili Group

<sup>1</sup> Read GS1 Competition Law Caution [here](#)



[Link to Joint Statement](#)



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# Global Retailer Update

Andrew Steele – GS1 Australia

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# Retailers progressing with 2D

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**MERCADONA**

**TESCO**  
///

*Wegmans*



**Publix**

*Wakefern*  
FOOD CORP.

# Tesco to pilot GS1 Powered QR Codes



We are a leading multinational retailer, with more than 330,000 colleagues and have over 2,800 stores



We now have 7 businesses and operate in the UK, ROI, Czech Republic, Hungary & Slovakia

“We know our customers want the opportunity to access detailed product information instantly via their smartphone and we are also always looking for solutions for reducing waste and tracking products more effectively throughout our supply chain.

“QR codes powered by GS1 will help us meet these challenges and we are already taking steps to prepare for the transition.” – **Matt Rhind, Supply Chain & Development Director**





# US Retailer Announcements

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“The potential 2D barcodes have to provide so much important product information will continue to help retailers, manufacturers and consumers.”  
- **Mike Stigers, President**



“The shift to 2D barcodes will be key to educating consumers in store as they consider products that best meet the needs of their families,”

“Industry coming together to make this transition while following barcode placement standards will be the gateway to information our shoppers increasingly want at the point of decision.” - **Dave Bornmann, SVP**



“In addition to the shopper engagement opportunities that 2D barcodes provide, these data-rich QR codes will also better support our inventory management operations. As an early adopter, we’re prioritizing this industry transition and are pressure-testing our capabilities to ensure readiness.”  
- **Dave DeLaus, SVP & CIO**



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## Global 2D Case Study

Andrew Steele – GS1 Australia

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# China – Case Study



The screenshot shows the GS1 Forum website interface. At the top left is the GS1 Forum logo. The navigation menu includes: WHO WE ARE, WHAT WE DO, COALITIONS & PROJECTS, EVENTS, RESOURCES, CONTACT, JOIN A COALITION, and BECOME A MEMBER. The main content area features a date '28 June 2024' and a large heading: 'Zhejiang GM2D Demonstration Area and “Zhejiang Food Traceability Chain” Digital Project'. Below the heading are two buttons: 'Case Study' and 'E2E Value Chain'. To the right of the text is a large image showing a perspective view of a grid of 2D barcodes, with a red square highlighting a portion of the grid.

Participating in the project:

- +9,000 production companies
- +400,000 distributors
- +600,000 catering businesses

- +45M 2D codes issued
- +75M 2D codes with batch numbers in circulation

# Application Cases – Food & Beverage



COMPANY NAME

- **TASTE FOOD NINGBO CO., LTD.**

PRODUCT NAME

- **DUC DE FORMONS VIN ROUGE**

HIGHLIGHTS

Regulatory personnel can achieve comprehensive risk alert and control for imported goods by scanning the code and instantly querying information about foreign wine estates, production countries, loading ports, and destination unloading ports.

Consumers can directly access essential information, logistics details, and customs declaration information for imported goods by scanning the code. This facilitates effective authentication of product authenticity, enhancing consumer trust in the quality and brand awareness of imported goods.



COMPANY NAME

- **Zhejiang Meilijian Dairy Co.**

PRODUCT NAME

- **Meilijian Xihu Brand Rooftop Double Probiotic Yogurt**

HIGHLIGHTS

Through GM2D “One Code for one item” technology, achieve secure anti-counterfeiting traceability for each bottle of yoghourt, enhance internal ERP data exchange efficiency, and reduce management costs.

Consumers can directly watch real-time dynamic monitoring videos, including the status of the dairy farm cows, factory processing scenes, and warehouse displays, by scanning the code. This ensures a truly reassuring and trustworthy purchase for consumers.



COMPANY NAME

- **Jinhua Weibang Food Co. Ltd.**

PRODUCT NAME

- **Jinhua Ham (Split Pack)**

HIGHLIGHTS

Consumers can directly access ham recipes and cooking methods by scanning the code, quickly mastering the essence of ham cooking.

The company showcases brand introductions and honours through 2D codes to expand corporate publicity, thereby enhancing brand image. Simultaneously, it embeds online purchase links for ham, facilitating consumers for repeat purchases and increasing ham repurchase rates.

# Application Cases – Non-Food



(01)06976057500891



(01)06954972900865



(01)06973350830993

COMPANY NAME

- **Zhejiang Yueyun Piano Co.**

PRODUCT NAME

- **Yueyun Upright Piano**

HIGHLIGHTS

Consumers can scan the code to retrieve relevant information about the piano and, based on user manuals, maintenance instructions, and instructional videos, independently perform maintenance operations and more on the piano.

The UI interface includes information on nationwide piano tuners, making it convenient for consumers to search for the nearest certified tuner. This provides consumers with professional and convenient piano tuning services.

COMPANY NAME

- **Zhejiang Beima Education Technology Co.**

PRODUCT NAME

- **Intelligence Play Fun Set**

HIGHLIGHTS

The company provides the quality inspection report for this toy through 2D codes, enhancing consumer confidence in the purchase. This ensures that parents buy with peace of mind, and children play safely.

The company integrates product design concepts and electronic manuals into 2D codes, making it convenient for consumers to access information about how to play with the toy.

COMPANY NAME

- **Zhejiang Shengshiyuanlin Technology Co.**

PRODUCT NAME

- **Backpack electric sprayer**

HIGHLIGHTS

Global consumers can enhance their consumer experience significantly by scanning the code to browse the company's domestic and international official website, accessing product quality test reports, and other information. This contributes to the increased competitiveness and credibility of the company and its products.

The company, through 2D codes, directly provides consumers with a feedback channel, legally safeguarding consumer rights.

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## Work Request for 2D Barcodes on Cartons

Aruna Ravikumar – GS1 Australia

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## Work Request for 2D barcodes on cartons

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This WR should give an opportunity to deep dive into this 'general distribution' environment topic focussing both on fixed measure and variable measure products :

- Explore if we need to develop transformative standards for this scanning environment too.
- Evaluate the extension of the new GS1 DL URI syntax for this scanning environment.
- **This WR excludes regulated healthcare and MRO subsections**



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## Local Update 2D New Team Members

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## Klaeri Schelhowe – 2D Lead GS1 NZ

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- 14 years at Avery Dennison, Europe
- 4 years at NOVEXX Solutions, Germany
- Executive Director at the Trust Alliance NZ Inc.
- Focus on improving product identification and data interoperability across the value chain.

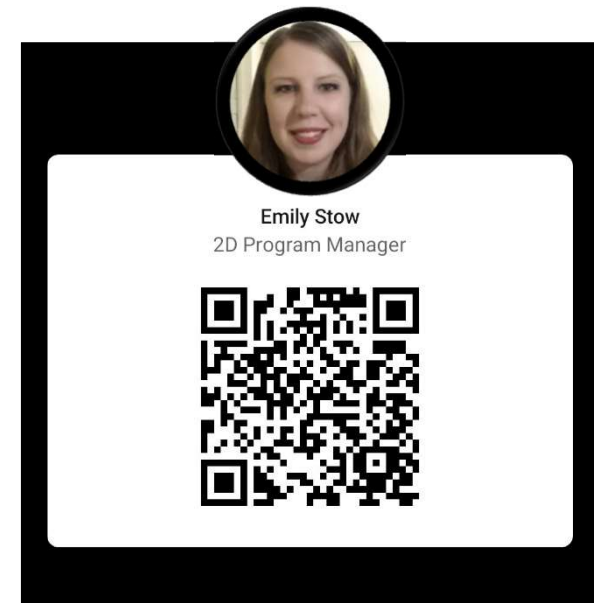


LinkedIn profile – see more:

# Emily Stow – 2D Program Manager GS1 Australia

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- NEW 2D Program Manager role to support the Australian Retail Industry with 2D Barcode Awareness, Capability and Adoption in preparation for Ambition 2027
- 20 years of experience within the Retail Industry (general merchandise, grocery, hardware, apparel and footwear)
- 10 years of Project Management experience, focused on process improvement, business operations and information technology





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## Local Update 2D Technical Working Group

Sue Schmid – GS1 Australia  
Richard Manaton – GS1 NZ

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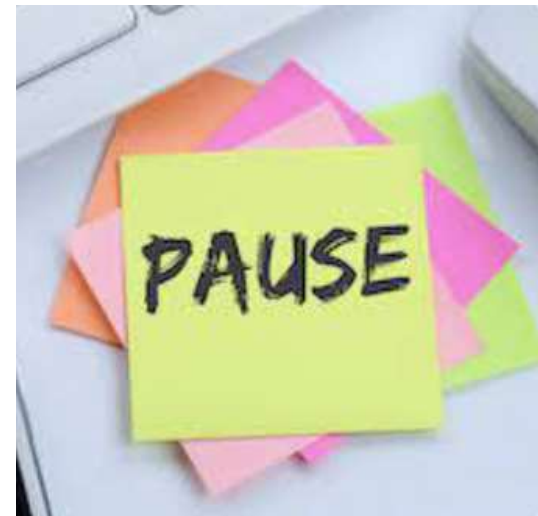


# 2D Technical Group Update

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**Opportunity to gather feedback as to what the requirement from GS1 is**

**Re-establish the group with the right structure to address the varied needs of different stakeholders involved**





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## Supplier Implementation

**Saurabh Mahajan**  
**NPD Process Manager**  
**One Harvest**

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# About One Harvest



- The roots of the Robson family connection with Australian produce extend as far back as the early 1930s, when Duncan Robson began trading fruit and vegetables at the Ipswich Markets in Queensland.
- Since then, the One Harvest family has grown to include four processing facilities that employ more than 1,000 people across Australia to process and supply our value-add produce to supermarkets and green grocers around the country.
- The One Harvest product repertoire includes prepacked salads, vegetables and fresh-cooked beetroot.

# 2D code on Packaging - Supplier experience



- **Scope:**
- To add 2D codes on packaging replacing the GTIN barcodes, process by inline printing capability
- **Advantages:**
- In date traceability – product life at shelf
- Consumer Education on ingredients
- Additional Recipe suggestion/ Usage
- Supply chain story to consumers
- Reduce on Artwork space for clean look.
- **Considerations:**
- Timeframe
- Inline printing capability
- Live 2D code generation





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## Woolworths Update

Roberto Olivares






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# Recap of 2D Barcode @ Woolies in 2023

2D Barcodes to support Consumer **Food Safety**, **Product Life** and **Reduction of Waste**

Use-Case	Initiative	Update	Look Ahead
	<ul style="list-style-type: none"> <li>● Transition of Fresh articles to 2D Barcodes</li> </ul>	<ul style="list-style-type: none"> <li>● Transition all Own brand Meat range articles</li> <li>● F&amp;V: 36 Salad bag articles and 4 suppliers.</li> <li>● Deli Service: ~230 articles</li> </ul>	<ul style="list-style-type: none"> <li>● Woolworths Branded Fresh / Perishables: ~750 articles and ~70 suppliers</li> </ul>
	<ul style="list-style-type: none"> <li>● Cut F&amp;V 2D Barcode labels</li> </ul>	<ul style="list-style-type: none"> <li>● Deployed 2D barcodes with Date and Time of Production on Cut F&amp;V</li> </ul>	
	<ul style="list-style-type: none"> <li>● Hot Food 2D Barcodes</li> </ul>	<ul style="list-style-type: none"> <li>● Deployed 2D Barcodes in Hot Food (Roast Chickens) to validate production time</li> </ul>	
	<ul style="list-style-type: none"> <li>● Prop Bakery 2D Barcode labels</li> </ul>	<ul style="list-style-type: none"> <li>● Deploying 2D Barcodes in Prop Bakery +370 articles with Expiry Date labels (Metro stores deployed)</li> </ul>	<ul style="list-style-type: none"> <li>● Deployment H1F25.</li> </ul>
	<ul style="list-style-type: none"> <li>● Manned Registers upgrade</li> </ul>	<ul style="list-style-type: none"> <li>● Deployed Zebra MP7 scanner/scales high performance 2D capable scanners</li> </ul>	



## GS1 DataMatrix / 2D Barcodes



### How we are working with our WFC suppliers

- **WFC Supplier Event** The Value of 2D Barcodes (March)



- **WFC Technical Roadshows** in Brisbane, Perth, Melbourne and Sydney (April)
- **Supplier Capability Survey** sent to all suppliers to understand their current capability and collect nomination for intent (June)
  - **55%** of respondents have capabilities to print 2D Barcodes
  - Setting up 1:1 sessions with **54%** of respondents who would like to find out more.
- **Transition Plan** development with Suppliers and any planned packaging artwork changes

**Attention: All Own Brand suppliers to Woolworths Australia and New Zealand.  
Excluding Suppliers of Home Essentials**

Dear Jayne Stewart,

At the **Woolworths** Food Company Retail (WFCR) Supplier Update in March, we communicated that as part of our ongoing commitment to innovation and efficiencies, we will continue transitioning to **GS1 DataMatrix 2D Barcodes**.

**GS1 DataMatrix 2D Barcodes** provide valuable information such as use-by and best-before dates, batch/lot ID, weight and price.

This means not only product identification but also product information is contained within the barcode, which is valuable for the purpose of:

- Food Safety and Freshness Guarantee for our Customers
- Date Code management and waste reduction
- Traceability and targeted recalls/withdrawals

We have been using **GS1 DataMatrix 2D Barcodes** in Protein and Ready Meals with positive results, and we are now preparing to extend this implementation to additional categories.

To assist in our implementation planning, it would be appreciated if you could please complete the following Google Form by **COB June 14th**:

**GS1 DataMatrix 2D Barcodes Supplier Feedback**

Additional Resources and Information

- WFCR Supplier Update Presentation on [The Value of 2D Barcodes](#)
- [Steps towards the Implementation, Essentials Checklist and Key Specifications](#)
- [2D Barcodes FAQs](#)

We understand this may require some adjustments on your end, and we are happy to provide any necessary technical guidance or support to ensure a smooth transition.

We've created [a dedicated page within the WFC Supplier Portal](#) to house all relevant information and updates regarding GS1 DataMatrix 2D Barcodes. This page will serve as a central resource for you to access the latest information. We encourage you to bookmark this page for future reference.

Thank you for your continued partnership and willingness to adapt with us. If you have any questions, please email us at [wfcprocessandsystems@woolworths.com.au](mailto:wfcprocessandsystems@woolworths.com.au).



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## General Business

Q&A

Next Meeting – Wednesday 27<sup>th</sup> November

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**Thank you**

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