Digital Labelling:
The Future of Smarter Food Labelling in Asia

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GS1 and the digital transformation of industry

- **GS1** aims to empower industry
- **Ambition 2027**
  - Linear barcodes → 2D
- **2D barcodes powered by GS1, GS1 Digital Link** and the **GS1 Registries Platform** help our members bridge the physical and digital worlds
Digital transformation is well underway

- Pace of digital transformation is increasing
- Potential for digital labelling of F&B products as part of a broader digitalisation of trade and business processes across sectors and geographies
- Governments and IGOs looking at ways to increase digitalisation across the global economy
GS1 in Asia-Pacific partnership with Asian Development Bank (ADB)

Initial source of funding:

- Strategic partnership with global development bank bringing together a GS1 project team from countries across Asia-Pacific to help companies in developing markets meet growing regulatory demands related to sustainability and circularity.

- Aim to use digital labels and GS1 Digital Link to build trust in ESG claims

- GS1 at the core of full value chain collaboration: ADB, IFRS/ISSB, Brand owners, Trade finance banks, manufacturers, suppliers, NGOs

- Outcome: Develop prototype that results in scalable framework that can be applied across industries and geographies. Potential for global impact.

GS1 lead consultant in partnership with IFRS/ISSB:
Confluence of trends driving change

- Regulatory demands for more data
- Increasing consumer expectations
- Strong business applications
Regulation driving digitalisation
Regulations driving digitalisation of business processes

• Trend across the globe in governments requiring ever greater data about products and supply chains.

• New regulations are being implemented to meet a number of policy objectives including increased food safety and more efficient recall procedures, promoting recycling and enhanced sustainability, building resilience in supply chains and more effectively fighting illicit trade and border security.

• Examples include:
  ➢ European Union Digital Product Passport
  ➢ United States Food Safety Modernization Act Section 204
  ➢ Customs agencies adopting digitally native solutions
  ➢ Growth of digital free trade agreements (FTAs)

THIS TREND IS NOT GOING AWAY...
Governments want this - Regulatory reform as a driver of digitalisation

Regulation is turning "nice to have" into "must have"

- **Circularity**: Preventing waste by entering products into a "re" life where almost everything is reconstituted
- **Transparency**: Ability of a multitude of stakeholders to access information with ease
- **Visibility**: Understanding whereabouts of an item at any given moment

**EU Digital Product Passport (DPP)**

**EU Greenwashing bill**

**French Anti-Waste for a Circular Economy (AGEC)**

**New York State Fashion Act**

**German Supply Chain Visibility Act**

- WTO Joint initiative on e-commerce
- UN Framework Agreement on Facilitation of Cross-border Paperless Trade in Asia and the Pacific (CPTA)
- DEPA (SG-Chile-NZ)
- DEA (SG-UK)
US FSMA 204 (The Final Rule)

- Outlines additional recordkeeping requirements
- Defines foods that subject to additional traceability requirements (Food Traceability List (FTL)).
- Companies that perform certain supply chain events are required to keep and share traceability records with the FDA within 24 hours
- Companies must create and maintain updated records of their general traceability plan.
- Rule effective date: January 2023
- Compliance date: January 2026
GS1 US FSMA 204 Guideline

Key Objectives

- Outlines Food Industry best practice to adopt GS1 Standards and meet FSMA 204 Requirements
- Maps FSMA 204 CTE-KDE requirements to a GS1 Standard that can solve for it
- Includes FDAs comments and direct links as well as other foundational resources
Growing consumer demands
Consumer expectations

- Consumers increasingly want to know more about the products they buy to make informed choices

- There are clear limitations in how much information can be conveyed on physical labels

- In ASEAN in particular this is further complicated by the need for brand owners to potentially include several languages on a single pack.

- Recent market research studies show that a majority of consumers across the region would like to use digital labelling to receive up-to-date information on food products.

  THIS TREND IS NOT GOING AWAY...
Food Industry Asia Consumer Study: Key Highlights

80% of consumers from 21 to 50 years old think that food product information is important.

Top Three Food Product Information Consumers Look Out For

- **DD.MM.YYYY**: Date of manufacturing/Expiry date
- **INGREDIENT**: Ingredient information list
- **DDR %**: Nutrition and health information

Challenges Faced by Consumers with Printed Labels

- 40% of consumers across the 10 key markets studied encountered issues with physical labels.
- 50% of consumers in Malaysia and Singapore mentioned that the information printed is in a foreign language.
- 60% of consumers in Malaysia and Singapore think that the font size of food product information printed are too small.

The Global Language of Business © GS1 2022
Food Industry Asia Consumer Study: Key Highlights

Consumer Perceptions on Digital Labelling

- 82% of consumers find digital labelling concept appealing, with the 31 to 40 years old age group being the most willing to use digital labelling.
- 80% of consumers in Malaysia and Singapore are willing/extremely willing to use an app to scan the digital labels on food packaging products to obtain product information.

Top Trends Driving the Adoption of Digital Labelling

1. Demand for greater transparency from the consumers
2. Greater complexity in supply chain management and traceability
3. Growing food safety concerns, particularly around counterfeit products
4. Increasing focus on making sustainable food choices
5. Lack of harmonisation for food labelling requirements globally
6. Growing number of food retailers transitioning to QR codes
Advantages of digital labelling
Use cases of digital labelling
Information stored in Digital Labelling

- Product identification/ authenticity
- Product origin
- Supply chain information
- Date of production, packaging and expiry
- List of ingredients
- Nutrition information
- Allergen declaration

- GM ingredient declaration
- Instruction for use
- Manufacturers’ information
- Sustainability information (e.g., environmental footprint, recycling information)
- Packaging material
- Marketing campaigns
- and many more
Case Studies across Asia
Authorities in Zhejiang Province, China wanted to help the province’s 125,000 food sector companies achieve better traceability to protect citizens, make more product information available to consumers and boost supply chain efficiencies.

- 67,000 food companies joined the Zhejiang Food Traceability Chain in 2022.
- 5,200 retail stores upgraded their point-of-sale systems in 2022 to be able to scan next generation barcodes.
- More than 111 million QR Codes powered by GS1 scanned by Chinese consumers in 2022.
- 200 tons of paper saved by transitioning to electronic invoices.
- 2.6 million yuan saved by transitioning to electronic invoices.
- 43 million batches of products have a QR Code powered by GS1 printed on their packaging.
Facing shoppers with new expectations and suppliers with new challenges, Woolworths Australia knew they needed a way to make available more data—and more granular data—about the products they sold, without causing confusion or wasting precious label space.

- Woolworths and selected suppliers are using 2D barcodes with GS1 standards to achieve substantial results, including enhancing food safety and reducing food waste by up to 40%
- Less food waste, better manageability of expiry dates and recalls
- Enhanced consumer engagement
7-Eleven - THAILAND

7-Eleven stores in Thailand wanted to ensure that expired products were not being sold to consumers.

- Over 100 SKUs included in expanded pilots
- Faster, simpler and more efficient operations, better stock management and most importantly, no more products sold past their “best before” dates
- Positive feedback from consumers and staff

Barcode choice:
- GS1 DataMatrix with element string syntax

Data encoded:
- GTIN
- Batch/Lot number
- Best before date
7-Eleven video
A way forward...

Recommended Action Items for Stakeholders to Boost the Adoption of Digital Labelling

- Launch pilot programs
- Promote multi-stakeholder collaborations
- Launch consumers awareness programs
- Develop enabling digital labelling regulations
- Facilitate regional/international harmonisation

GTIN 95040004

- Nutrition
- Instructions
- Loyalty Rewards
- Patient Portal
- And more
Thank you / ขอบคุณครับ

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