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.

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Transition Plan: Ambition 2027

The companies of the GS1 Board have aligned on a goal that all retailers will have the ability to scan 2D barcodes by the end of 2027 as a minimum standard, known as Sunrise 2027 for 2D barcodes.

This will require retail POS scanners globally to have the proper technology to scan both 1D and 2D barcodes as we anticipate a brief period where both 1D and 2D barcodes exist together as we transition. GS1 and its 116 local GS1 organizations have convened retailers, manufacturers, scanner manufacturers, and trade associations to develop and deploy a multi-year plan to create the capability, awareness, marketing, and communication plans to lead this change. This is already showing results, with 2D pilots happening in 48 countries across all regions, representing 88.5% of the world's GDP. As a great example of collaboration with government agencies, the Zhejiang province in China launched a project to implement 2D barcodes in the food industry, with 7,000 manufacturers adopting 2D barcodes and 5,200 retailers upgrading their POS scanning systems. Last year, more than 111 million 2D barcodes powered by GS1 were scanned by Chinese consumers.

Retailer and Manufacturer Changes Needed

Retailers: will need to have the right POS scanner technology to ensure both 1D and 2D barcodes can be scanned at checkout. This includes ensuring optical scanner hardware is in place as well as the appropriate firmware and software to read 2D barcodes. Third-party research indicates that already more than 80% of retail POS globally are currently equipped with scanners capable of reading 2D barcodes and that this number will continue to increase steadily to reach a critical mass by 2027 (>85%).

We expect that 2D scanning adoption will grow at different rates around the world, but one thing is certain: those that accelerate through this transformation the fastest will be best positioned to unlock valuable new capabilities and benefits.

Manufacturers: will need to follow the GS1 Digital Link minimum standard as they print 2D barcodes on their packages and determine what data is right for them to include in that link (e.g., GTIN, URL, product variant, etc.). Manufacturers will need to establish their approach to routing the 2D barcodes to consumer online web page experiences and determine what consumer experience or web landing page is right for their consumers.

Ask To CGF Board

1. Support this plan and prepare for this transition.

2. Share this plan with the key people in your organization who will lead this transition. More resources on the transition to 2D Barcodes can be found on the GS1 website at the following address: (www.gs1.org/2dbarcodes). Additionally, you can watch this 20-minute video (https://vimeo.com/876965189?share=copy) on SMART Packaging by John Phillips from PepsiCo to learn more. Please enter **CGFSMARTData** when asked for the passcode.

3. Connect your working teams involved in this initiative with Rudy Hagedorn from CGF (r.hagedorn@theconsumergoodsforum.com) and Marianne Timmons from GS1 (Marianne.timmons@GS1.org)

Thanks,

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Appendix – 2D Barcode Examples and Benefits

Scan the 2D barcode with your smartphone.

The Benefits of 2D Barcodes with GS1 Digital Link

2D barcodes formatted using the open GS1 Digital Link standard provide strong benefits to consumers/shoppers, retailers, and brand owners.

Consumers/shoppers gain access to very specific product information beyond what is displayed on the label by using their smartphone camera to scan the 2D barcode. The content of a 2D barcode scan can lead them to an internet resource with detailed information about, for example, usage instructions, product safety, ingredients, nutrition, certifications, recycling, expiration dates, promotions, and more.

Retailers can deliver better quality information to shoppers to enhance the overall consumer experience. When the 2D barcode includes additional information such as expiration date, batch, lot, or serialization of the product, these can be used to increase traceability of products throughout the entire value chain. This can enable a quicker response time to removing expired or recalled products from the shelves and preventing them from being sold at the cash register.

Brand Owners can encode rich information in a universally readable way to increase consumer engagement, create new brand experiences, enable news ways of marketing and promotions, and comply with new and changing regulations.

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