

GS1 case study

Jeju SamDaSoo mineral water aiming for “top” levels of efficiency and sustainability

By putting a QR Code powered by GS1 on every bottle cap, Korean water bottler JPDC is going label-less



Challenge

Recent regulations are pushing Korean beverage companies to remove labels from their bottles as part of an initiative to use less plastic and make recycling easier

Solution

Information that was previously on the labels of Jeju SamDaSoo mineral water is now available simply by scanning the QR Code with GS1 Digital Link on the bottle cap

Benefits

Beyond being compliant with national laws, the company is seeing improved engagement with consumers, better inventory management and more



As the bottler of Jeju SamDaSoo, Korea's only volcanic mineral water, Jeju Province Development Corporation, or JPDC, has had an eco-friendly mindset since its creation in 1998.

When the Korean Ministry of Environment launched a nationwide initiative to encourage less plastic use and promote the recycling of polyethylene terephthalate (PET) plastic bottles in December 2020, JPDC quickly embraced the idea.

In fact, just a few months later in February 2021, JPDC launched their Green-Whole-Process designed to make their end-to-end operations more sustainable by building a circular economy around their plastic bottles. Their "5R" green packaging strategy—Reduce, Recycle, Replace, Redesign and Renovate—is the foundation of their plan to reduce 64 tons of vinyl waste and 1,000 tons of plastic every year and ultimately someday be entirely plastic-free.

No labels by January 2026

In December 2022, as part of the "Use Less Plastic" Initiative, Korea's government announced that by 1 January 2026, all PET bottles of mineral water in Korea needed to be label-less*. This would make bottle recycling easier, faster and more efficient. The mandate further states that individual bottles should move all the information that would previously have been on the label into a QR Code on each individual bottle's cap.

And that's where GS1 Korea comes in.

Better barcodes

Because JPDC needed to get a lot of information into a QR Code on the bottle cap while ensuring seamless checkout at retail stores, GS1 Korea recommended using QR Codes powered by GS1.

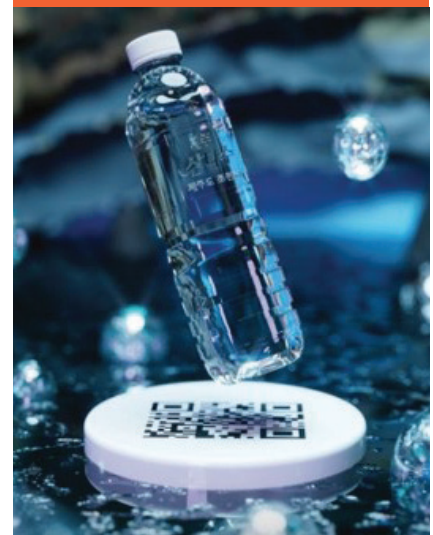
A QR Code powered by GS1 can contain more information than a traditional barcode or a standard QR Code. It can hold a GS1 GTIN® (Global Trade Item Number®) as well as a product's batch or lot number, serial number and expiry date; and it can also contain a GS1 Digital Link. In the same way that a URL points to one website, a GS1 Digital Link connects to various sources of information online.

Companies use QR Codes with a GS1 Digital Link to deliver information to shoppers and consumers about ingredients, allergens, recipes, rewards, promotions and more, as well as to provide brand-authorized details about where the item was manufactured, facts about sourcing, easy ways to re-order and other details.

Companies also use QR Codes with a GS1 Digital Link to improve business operations. With easy access to so much data, business partners up and down the supply chain can boost transparency, improve inventory management, reduce waste, simplify recall and return processes, and enable traceability and sustainability initiatives.

And because they are small and yet able to contain lots of information, QR Codes with a GS1 Digital Link are perfect for companies like JPDC who want or need to go label-less.

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* Regulation 11.1.3: <https://www.law.go.kr/LSW//admRulLsInfoP.do?chrClsCd=&admRulSeq=2100000240994>

The first in Korea

Undisputed leader in mineral water with 43% market share and 3.5 trillion Korean won (2.3 trillion euros) in accumulated revenues in 2023, it's unsurprising that JPDC also intends to lead in sustainability. And indeed, the company wanted to be the first in Korea to implement QR Codes with GS1 Digital Link.

Mission accomplished! JPDC has today deployed the use of QR Codes with GS1 Digital Link on their Jeju SamDaSoo water bottle caps. Each cap has a QR Code that contains a GTIN which beeps at the checkout just like any barcode; and when a consumer scans the code with a smartphone, the GS1 Digital Link embedded in the code takes them to a product information page on the web.

Integrated into the production line

The QR Codes are printed directly on SamDaSoo bottle caps during production.

To ensure their very high quality and hygiene standards, JPDC manufacture their own bottles and caps. Once delivered to the production line, the bottles first get filled with rainwater that has filtered naturally for 18 years through layers and layers of Mount Hallasan's volcanic rock.

The bottles are capped and inspected, and then the bottles are lined up to get a barcode printed on them. The QR Codes then get inspected and verified.

Bottles that will be sold individually are shipped off to retail points of sale; bottles that will be bundled into multipacks are given a traditional barcode on the handle of the pack.

Wide range of benefits

JPDC has seen a variety of benefits from deploying the use of QR Codes with GS1 Digital Link on their water bottles.

For example, these advanced QR Codes have enhanced consumer engagement by providing people with quick and easy access to information about the source and high quality of Jeju SamDaSoo water. They also enable JPDC to create promotions.

JPDC leverages its website for public campaigns like the 'Missing Children Search Campaign.' By scanning a QR Code with GS1 Digital Link on bottle caps, consumers can easily access the campaign webpage and take action. In recognition of their efforts in consumer engagement, SamDaSoo was accredited with 'Consumer Centered Management (CCM)' by the Korean government in 2022.

The QR Codes with GS1 Digital Link ensure compliance with Korean legislation concerning the recycling of plastic water bottles.

Safety and quality levels are notably improved as the best-before dates embedded in the QR Codes would facilitate easier recalls if necessary.

On the inventory management side, the integration of best-before dates into QR Codes has also optimised the First-In-First-Out process and minimised obsolete stock.

And yet, these QR Codes "beep" at supermarket checkout just like the old ones did. However, the checkout process is currently facing some challenges due to difficulties in printing QR Codes on the bottle caps. JPDC and the major retailers are working closely together to enhance the quality and resolve these issues as quickly as possible.



JPDC's efforts and achievements for a more sustainable future

2023

- Won the industry's first "World Star Packaging Award"
- Secured the main prize at the "iF Design Award Communication"

2022

- Jeju Samdasoo's "RE:Born" received the Prime Minister's Award at the Korea Packaging Competition

2021

- Announced the green management vision, "Green Whole Process"

100% of all JPDC bottles will be **label-free** by 2025

-25% less plastic used by 2025

Net zero in plastic by 2040

About JPDC (Jeju Special Self-Governing Province Development Co.)

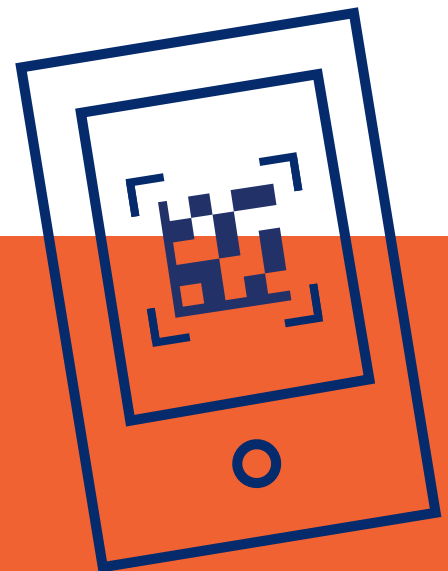
Jeju Province Development Co. (JPDC) is the leading manufacturer of bottled water in Korea, today holding the largest market share at 42.8%. The company was established in 1995. With an annual production of 1 million tons in 2022 and accumulated revenues reaching KRW 3.5 trillion in 2023, JPDC has demonstrated steady growth year-on-year. The company extracts water from 420 meters beneath Mount Hallasan—a UNESCO biosphere reserve. This water, having undergone an 18-year natural filtration process through volcanic and sediment layers, requires minimal treatment to maintain its pristine quality. JPDC's commitment to sustainability is highlighted by its self-manufactured bottles and caps and the rigorous cleanliness of its filling processes. With the introduction of innovative QR Codes in collaboration with GS1 Korea and the ongoing 'Green Whole Process', JPDC is dedicated to advancing ESG management and promoting eco-friendly production practices.

www.jpdc.co.kr/samdasoo/eng/story.htm

About GS1

GS1 is a neutral, not-for-profit organisation that develops and maintains the most widely used global standards for efficient business communication. We are best known for the barcode, named by the BBC as one of "the 50 things that made the world economy". GS1 standards improve the efficiency, safety and visibility of supply chains across physical and digital channels in 25 sectors. Our scale and reach—local Member Organisations in more than 110 countries, 2 million user companies and 6 billion transactions every day—help ensure that GS1 standards create a common language that supports systems and processes across the globe.

www.gs1.org



Get started with QR Codes powered by GS1!

Contact your local GS1 Member Organisation to begin your journey: www.gs1.org/contact

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