



2D barcodes case study

QR Codes powered by GS1 help ensure food safety at Hangzhou Asian Games

Safe meals and snacks were served to 12,500 athletes thanks to the power of GS1 standards



Challenge

A top priority of the organisers of the Hangzhou Asian Games was to serve safe food from trusted supply chain partners

Solution

Under the stewardship of Zhejiang AMR, QR Codes powered by GS1 were extensively implemented across the entire end-to-end food supply chain of the Games

Benefits

Zero food safety accidents, zero food-borne doping incidents – an accomplishment acknowledged by Thomas Bach, President of the International Olympic Committee

The 2022 Asian Games, more familiarly known as the Hangzhou Asian Games, were held from 23 September to 8 October 2023 in Hangzhou, the capital and most populous city of Zhejiang Province on the eastern coast of the People's Republic of China.

Postponed due to the COVID-19 pandemic, the highly anticipated Hangzhou Asian Games were the first major international multi-discipline mega-event held in Zhejiang Province, and they welcomed a record-setting 12,500 athletes from across the 45 member countries of the Olympic Council of Asia.

Naturally, serving meals to all these athletes presented a variety of challenges. The top priorities of the teams in charge of catering were to ensure that no one got sick due to a food safety issue and to take measures to prevent the presence of food-borne performance enhancing substances.

That's where the Zhejiang Provincial Administration for Market Regulation, or Zhejiang AMR, came in.

An innovative programme for food safety

Since May 2022, with the help and support of GS1 China, the Zhejiang AMR has been running a programme to help food companies achieve better traceability and transparency.

This programme, known as the Zhejiang Food Traceability Chain, is a food safety and traceability supervision system through which pre-packaged food and edible agricultural products from trusted suppliers are labelled with QR Codes powered by GS1. China has been a leading country in promoting and implementing these next generation barcodes.

Thanks to the Zhejiang Food Traceability Chain, food products and information about them moves together across the supply chain, ensuring full, end-to-end visibility. Information about origins, transport and use of food products in meals is available in a database that retailers, restaurants, regulators and consumers can access.

This database contains information based on GS1's global standards, which means it can smoothly interact with many other databases in China that also house data based on GS1 standards - including the ones behind applications and services such as Alipay, WeChat, government regulatory platforms and more.



The Asian Games Food Safety Centre

To meet their food safety and security goals, Zhejiang AMR established a special department called the Asian Games Food Safety Centre, which required all businesses involved in food services for the Games to adhere to its rules and requirements. The Zhejiang Food Traceability Chain System was leveraged for real-time, end-to-end traceability.



How it worked

Upstream suppliers of food products to the Games logged on to the system and entered information about their items, such as a basic description, batch information, product category, transport method, relevant certificates and more. The suppliers generated QR Codes containing a Global Trade Item Number® (GTIN®), a batch number or a serial number, and a GS1 Digital Link standard that provided all stakeholders with access to multiple sources of information about the product item.

The user was provided with a unique serialized QR Code for each outer shipping box of their food product, which they downloaded, printed and pasted on the box.

Then that QR Code powered by GS1 was scanned at every step along the way, as each box of food items moved from the supplier all the way to the restaurants where athletes eat: vehicles, logistics centres, warehouses, inspection stations and more. With each scan, the central database was updated with the latest location information.

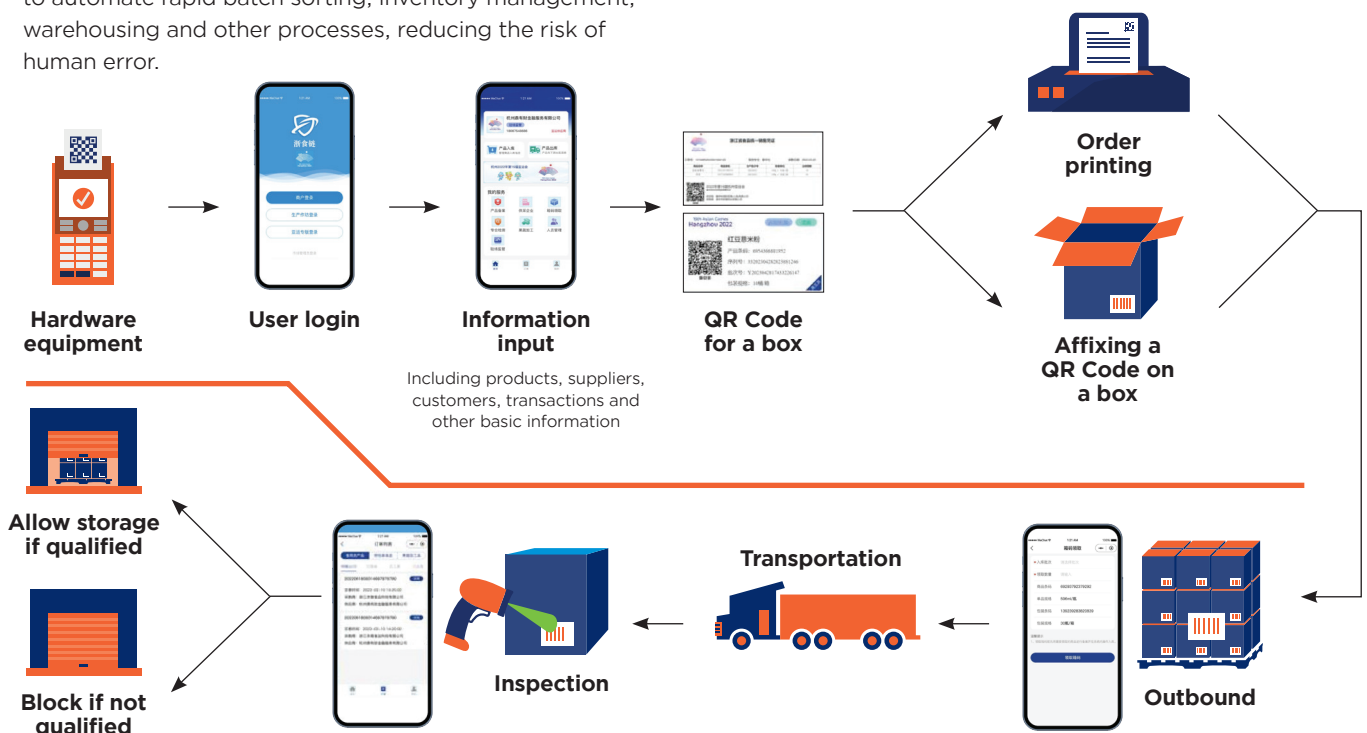
Each QR Code was also linked with downstream orders to automate rapid batch sorting, inventory management, warehousing and other processes, reducing the risk of human error.

Additionally, the codes were connected to logistics data, including real-time GPS tracking of vehicles and temperature and humidity monitoring, ensuring that the delivery process meets all necessary standards for safety and compliance.

Once at warehouses at the Games, personnel scanned the QR Codes to access information for each separate box of food. This allowed them to see the results of food safety inspections, including tests for food-borne doping substances. Items that had not yet been tested were moved to a waiting area for testing. Those that had passed inspection were immediately stored.

This system streamlined the process and ensured only safe, verified food products were distributed to restaurants.

All information was synched with the main database in real-time, allowing participating businesses and event stakeholders to query the traceability information at any time to see where their items or their orders were.





An absolute success

During the Asian Games, Zhejiang AMR's Asian Games Food Safety Centre generated over 2.4 million QR codes powered by GS1, with these codes being scanned for product information. Furthermore, the Asian Games Food Safety Centre conducted comprehensive testing: 728 batches of food were examined for food-borne doping, and 2,741 batches underwent rigorous food safety testing, ensuring the highest standards of consumer safety and health.

In total, the Asian Games Food Safety Centre successfully safeguarded 2,625 tonnes of food ingredients, and ensured that three and a half million individuals had access to safe meals.

Zhejiang AMR's achieved its "double-zero" objective: zero food safety accidents, zero food-borne doping incidents. This accomplishment was specifically acknowledged by Thomas Bach, President of the International Olympic Committee, and received high praise from various athlete delegations as well.

Next steps

The Hangzhou Asian Games may be finished, but the work of Zhejiang AMR is not!

Beyond its remarkable achievements in the food safety domain, Zhejiang AMR is today working to extend the use of QR Codes powered by GS1 to companies beyond the food sector. They intend to add 100,000 more manufacturers and retail companies to the programme by 2025. By that same date, they also intend to ensure 20,000 stores (including all large supermarkets) are equipped with point-of-sale scanners that can scan two-dimensional barcodes at checkout and process all the rich data embedded in them.

QR Codes powered by GS1 to meet new expectations

QR Codes powered by GS1 bring a whole range of ways to deliver new experiences for consumers and improve business operations while still going "beep" at checkout.

These high-capacity barcodes can hold a GTIN, a product's batch or lot number, serial number and expiry date. With access to that data, business partners up and down the supply chain can boost transparency, improve inventory management, enable traceability and sustainability

initiatives, reduce waste, simplify recall and return processes.

QR Codes powered by GS1 give producers and retailers new ways to connect with their consumers and shoppers. Just by scanning a QR Code with a smartphone, consumers can instantly see ingredients, allergens, recipes, rewards, promotions and more, as well as brand-authorized details about where the item was manufactured, facts about sustainable sourcing, guidance on recycling, easy ways to re-order and other kinds of information.

2,625 tonnes
of food ingredients protected

Safe meals served to
about 3.7 million
individuals

2.4 million
QR Codes powered by GS1
generated

728 batches
of food were examined for
food-borne doping

more than 2,740
batches
of food rigorously tested for
safety

0
food safety accidents during the
Hangzhou Asian Games

0
food-borne doping incidents
during the Hangzhou Asian
Games

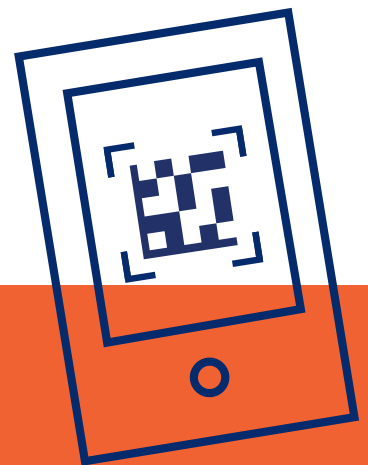
About Zhejiang Provincial Administration for Market Regulation

Zhejiang AMR is affiliated to The People's Government of Zhejiang Province, responsible for the comprehensive supervision and management of the market in Zhejiang Province, including registration of market entities, market supervision and law enforcement. And it also takes charge of coordination of product quality and food safety supervision, standardization management and intellectual property rights supervision and administration, maintain market order. Zhejiang AMR aims to create an honest and trustworthy market environment with fair competition.

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 10 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 GS1 Member Organisation to see how GS1 can help you begin your journey: www.gs1.org/contact

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