



Pioneering the second barcode revolution

How Domino is transforming traceability and customer experience with QR codes powered by GS1



Executive summary

Businesses across the globe are preparing for a fundamental shift in how products are identified, tracked and communicated. The traditional one-dimensional barcodes, which have served industry well for over 50 years, are being replaced by more capable, data-rich alternatives: QR codes powered by GS1. These next-generation barcodes are designed to meet the evolving needs of businesses, regulators and the rising expectations for transparency of consumers. People want to know more about what they buy, from ingredients and allergens to provenance, environmental impact and ethical sourcing. At the same time, brands and retailers need to provide accurate, real-time information across increasingly complex supply chains. Meeting these demands calls for a new kind of code, one that can embed information for all users.

Built on global standards, QR codes powered by GS1 enable multiple uses from a single code, linked directly to a product's digital twin that can include batch and expiry data, safety documentation, usage instructions, certifications, recycling guidance or promotional content. Designed to function across all retail and supply chain environments, these QR codes are already being tested and introduced at point-of-sale.

Given that over 90 per cent of consumers say transparency is important to their purchasing decisions, and more than 60 per cent say they would switch brands for greater access to trustworthy product data, it is perhaps not surprising that a growing number of GS1 UK members are already moving forward with adoption of the new codes.

In response to this industry-wide evolution, Domino Printing Sciences (Domino) has taken a leading role. By embedding QR codes powered by GS1 across its own product portfolio, Domino is improving internal efficiency and customer experience, while also building the knowledge and capability to support its customers through their own digital transitions.



Introducing Domino Printing Sciences

Established in 1978 and headquartered in Cambridge, UK, Domino Printing Sciences has grown into a globally trusted provider of advanced variable data printing hardware, software and consumables to many of the world's leading manufacturers and printing companies.

With a customer base that spans multiple industries including food and beverage, pharmaceuticals, personal care and industrial products, Domino's portfolio includes technologies that support high-speed, high-accuracy marking of packaging and product surfaces. From thermal inkjet and laser printing to continuous inkjet and thermal transfer overprinting, Domino solutions are relied upon to meet the stringent compliance and efficiency demands of modern supply chains.

In recent years, Domino has aligned itself more closely with initiatives that promote digital transformation and data-driven operations. A significant part of this vision includes its long-standing partnership with GS1 UK.

With the global shift from traditional one-dimensional barcodes to more sophisticated, data-rich two-dimensional QR codes, Domino recognised a clear opportunity to not only prepare its own operations for this transition but also to provide leadership to its customer base through early adoption and internal implementation.

“Over and above product capabilities and reliability, Domino's customers value the expertise that we bring to every solution engagement. We recognised that the best way to be able to support customers with QR codes powered by GS1 most effectively, would be to implement them ourselves.”

Craig Stobie
Global Business Development Director
Domino Printing Sciences





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Craig Stobie, Global Business Development Director, Domino Printing Sciences

Setting the course

The GS1 global initiative marks a pivotal moment in global commerce. Retailers and manufacturers worldwide are expected to be ready to scan two-dimensional (2D) barcodes—particularly QR codes powered by GS1—at point-of-sale. This milestone has been described as the second barcode revolution, building on the legacy of the traditional one-dimensional barcode and bringing it into the digital age.

Unlike their predecessors, QR codes powered by GS1 offer far more than a price look-up; they create a gateway to trusted, real-time product information by embedding globally recognised identifiers such as Global Trade Item Numbers (GTINs) within QR codes via the GS1 Digital Link standard. This unlocks opportunities for improved traceability, product authentication, sustainability disclosures and richer consumer engagement.

Recognising the scale and urgency of this shift, Domino acted early to integrate QR codes powered by GS1 across its operations, adopting a single code on products and packaging to streamline processes such as sourcing, production, warehousing, logistics and post-sales support.

By undertaking the transition ahead of many in the industry, Domino gained valuable insights into the challenges and opportunities, enabling it to support customers more effectively.

Adoption brought multiple benefits. A single QR code per product eliminated redundant labelling and simplified data capture across the supply chain. Customers now have instant access to certifications, safety documentation, technical specifications and reordering tools, improving their overall experience. Distributors benefit from enhanced visibility of expiry dates and stock levels, allowing for better inventory rotation and reduced waste. Together, these improvements have delivered immediate operational efficiencies while supporting Domino's longer-term digital transformation goals.

“As we were an early implementer, we wanted to ensure that we fully understood the requirements of the new standard, so that we could get maximum benefit internally and identify any specific pitfalls within the adoption process, so that we could help customers navigate the new approach as painlessly as possible,” continues Stobie.

Building from within: a structured rollout

The implementation of QR codes powered by GS1 within Domino was approached as a multi-phase programme. Domino convened a cross-functional team to define a set of use cases and establish the foundational architecture. Within this team, key individuals took responsibility for learning the technical framework of the GS1 Digital Link standard and translating it into practical guidance for implementation.

Carl Haycock, Domino's European hardware operations director, was responsible for how to benefit from the standard internally. He notes:

"We knew that collaboration and shared knowledge would be important, and so we engaged GS1 UK to provide internal training sessions. These workshops helped build a common understanding of the technology, and the requirements for successful adoption. As a result, we documented and monitored new processes within our fluids and spares teams, closely monitoring for any data issues we might encounter."

The company embedded the objectives of the QR code initiative into both corporate and personal performance goals, reinforcing its strategic importance and ensuring sustained focus across teams.

To extend the benefits of traceability and simplified access to data to customers, the company created a resolver platform capable of delivering relevant, up-to-date information when any item's code was scanned.

As the first phases progressed, Domino extended QR code implementation to new printer hardware. With each new production line or machine, the same principles were applied: codes were assigned and configured using the internal standards, and the resolver was updated to provide product-specific information.

This expansion was managed iteratively, using a matrix that weighed the value of each use case against the resources and effort required to implement it. The process was highly collaborative, requiring input from operations, marketing, IT and regulatory teams.

Learning by example

Despite careful planning, Domino faced a series of challenges during the rollout. Perhaps the most immediate was supplier readiness. As an early adopter, Domino often found that its suppliers were not yet equipped to support the functionality of QR codes powered by GS1. This resulted in delays and the need for workaround solutions, particularly where tooling or software updates were concerned.

Internal data also posed difficulties. Many of the data sets needed to populate the resolver had been developed for internal use and therefore assumed a level of familiarity with Domino's product portfolio. Making this information accessible and meaningful to external users required a comprehensive review of content, quality and formatting. Domino's infrastructure also presented technical barriers. Existing ERP and CRM platforms were not fully compatible with GS1 Digital Link syntax, meaning that QR

codes containing web links and additional data elements could not be processed effectively. While customers using smartphones could access the resolver without difficulty, internal teams encountered limitations in using the codes for key supply chain functions such as tracking, quantity management and expiry monitoring.

Another area of difficulty was error handling. Given the decentralised nature of product data and the risk of misformatted codes, Domino had to establish protocols for managing resolver behaviour in the event of data gaps or incorrect formatting. This placed additional responsibility on digital marketing and technical teams, who worked to ensure that users would receive a clear, useful experience even in the event of a system issue.



Supplier readiness

Suppliers weren't yet equipped to support QR codes powered by GS1 functionality - causing delays and work-around solutions.



Internal data quality

Internal datasets weren't suitable for external users and needed to be fully reviewed for context, quality and formatting.



Infrastructure compatibility

ERP and CRM platforms could not process GS1 Digital Link syntax, limiting tracking, quantity management and expiry monitoring.



Internal data consistency

Decentralised data and misformatted codes meant Domino had to build protocols to manage resolver gaps and user experience.

Turning obstacles into progress

Rather than attempting to build a comprehensive system all at once, Domino focused on delivering value early on through a small number of well-defined use cases.

The platform was then extended over time, with new functions added based on customer feedback and evolving business needs. This agile approach helped maintain focus and speed up adaptation.

By documenting the rules for code creation, data structure and resolver configuration, Domino made it easier for teams to apply the standards consistently. This was particularly important as the scope of the project expanded and more departments became involved.





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What Domino and its customers gained

A Domino manufacturing engineer supporting the deployment, Dante Riccio, noted: "The shift to a single QR code per product improved internal traceability and simplified the labelling process across our production sites. Teams have reported greater clarity and fewer errors."

Customers scanning a QR code can now access a tailored online experience that includes technical specifications, safety data sheets, certifications and options for reordering consumables. This reduces the need for printed materials and support calls, while improving the customer's confidence in the product.

Domino's distribution partners also saw benefits. With expiry data embedded in the code and easily visible via the resolver, inventory rotation became far simpler. This has improved overall stock management, helping to reduce waste.

At a strategic level, Domino has further reinforced the expertise that it sees as a key differentiator in the market. Through its own real-world experience in implementing QR codes powered by GS1, the company is now better equipped to advise clients and partners, a capability increasingly important as more businesses prepare for the transition and seek guidance from experienced providers.

A multifaceted impact



For production sites

Improved traceability across every stage.
More consistent processes and reduced errors.



For partners

Stronger stock visibility and control.
Less waste and better inventory management.



For customers

Fast, reliable access to the
information they need.



For strategic positioning

Practical experience of QR codes powered
by GS1 at scale. Stronger capability to
guide customers through adoption.

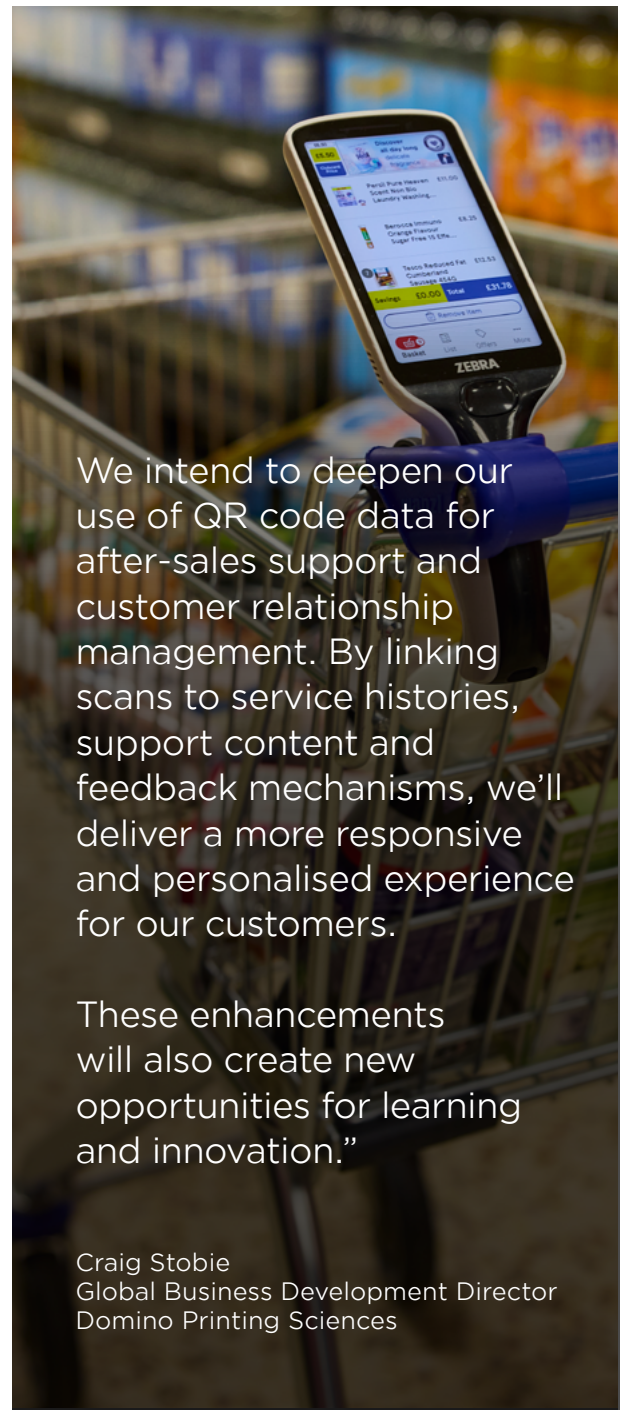
Looking ahead

Domino's work with QR codes powered by GS1 is part of a broader digital transformation programme. The company is currently rolling out new enterprise resource planning, warehouse management and knowledge management systems, which will provide a more robust foundation for its global operations. These systems are being configured to fully support two-dimensional codes and associated data structures.

Looking ahead, Domino plans to phase out the use of one-dimensional barcodes entirely. By transitioning to QR codes powered by GS1, the company expects to free up label space, reduce complexity and deliver richer information to all stakeholders.

The strategy also includes the expanded use of GS1 identifiers such as Global Location Numbers (GLNs), Global Returnable Asset Identifiers (GRAIs), and Global Individual Asset Identifiers (GIAs), which will enable more granular tracking and improved interoperability across the supply chain.

Global Business Development Director, Craig Stobie, concludes: "We intend to deepen our use of QR code data for after-sales support and customer relationship management. By linking scans to service histories, support content and feedback mechanisms, we'll deliver a more responsive and personalised experience for our customers. These enhancements will also create new opportunities for learning and innovation."



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About GS1 UK

Whether online, in store or in a hospital, the common language of GS1 global standards is helping our community of more than 60,000 organisations across the UK to uniquely identify, describe and track anything, creating greater trust in data for everyone.

From product barcodes to patient wristbands, GS1 standards have been transforming the way we work and live for 50 years. We are now embarking on the next 50 years of industry transformation delivered through QR codes powered by GS1.

GS1 UK is one of 120 neutral and independent GS1 organisations operating worldwide.

GS1 UK

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