



The Global Language of Business

GS1 case study

GS1 DataMatrix: The next generation barcode driving Żabka's retail innovation



Challenge

Żabka wanted to ensure product freshness, improve inventory management and meet increasing customer demands for product information. They also wanted to improve barcode scanning rates for small and curved fresh foods products using a more compact barcode option that would meet global retail standards.

Solution

Żabka implemented GS1 DataMatrix, a two-dimensional (2D) barcode offering high data capacity in a very small format. Partnering with Nowalijka, a private-label supplier of fresh food products, and supported by GS1 Poland, they rolled out GS1 DataMatrix on all Nowalijka products for Żabka.

Benefits

The roll-out of GS1 DataMatrix, which holds essential product data and makes it accessible to business partners, improved inventory management, product availability and expiration date tracking. Żabka can now monitor stock, automate discounts and ensure that no expired products are sold, safeguarding customer safety and satisfaction while also reducing food waste.

The implementation of GS1 DataMatrix barcodes on Nowalijka's products for the Polish retailer Żabka's has transformed inventory management, improved product tracking and enhanced customer safety. With streamlined processes and better data accuracy, Żabka can ensure fresh, high-quality products and innovative, sustainable retail practices.

Poland's best-known convenience stores

For over 25 years, Żabka has been serving millions of customers across Central and Eastern Europe with high-quality service and a broad range of products. With 11,000 shops in Poland alone, including neighbourhood stores and stores in transit points, office buildings and petrol stations, Żabka reaches 4,1 million customers daily, making it one of Poland's most recognised brands.

Żabka has long been at the forefront of innovation: consider, for example, their 2018 implementation of GS1 DataBar barcodes containing GS1 Global Trade Item Number® (GTIN®), batch and lot numbers on fresh products. Adopting this 1D (one-dimensional) barcode noticeably improved Żabka's efficiency in receiving goods and managing inventory. However, some Żabka warehouses and shops had problems scanning the GS1 DataBar barcodes, especially when package surfaces were curved or rounded. These difficulties offset some of the benefits and highlighted the need for barcode option that could hold more data and be more versatile. GS1 DataMatrix quickly emerged as the ideal choice.

Żabka: always innovating

Beyond finding a smaller barcode that would be easier to scan, Żabka aimed to ensure accurate and detailed product data, including a GTIN, batch or lot number, expiry date and serial numbers. They were also focused on meeting the rapidly increasing demands for more product information from both customers and business partners.

In fact, brands and retailers around the world are facing this same challenge, which is why the global retail and consumer goods sector has set a goal that, by the end of 2027, all retail point-of-sale (POS) systems should be able to read and process 2D barcodes, such as QR Code powered by GS1, GS1 DataMatrix and Data Matrix along with traditional 1D barcodes.

To be ready for this progressive global transition to 2D barcodes with GS1 standards, GS1 is supporting retailers to ensure their points of sale can scan 2D barcodes while also encouraging brand owners to explore and implement the most appropriate 2D barcode to address their priority business and consumer needs.

Żabka sought to meet increasing customer and business demands for product information, address their scanning challenges and improve operational efficiency, which is what convinced them to roll out GS1 DataMatrix.

Żabka sought to meet increasing customer and business demands for product information and improve operational efficiency, which is why the company rolled out GS1 DataMatrix across more than 11.000 of Żabka stores



Wartość odżywcza	w 100 g
Wartość energetyczna	185 kJ / 44 kcal
Tłuszcz	2,3 g
w tym kwasy tłuszczowe nasycone	1,3 g
Węglowodany	4,9 g
w tym cukry	1,8 g
Błonnik	<0,5 g
Białko	1,0 g
Sól	0,75 g



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That second dimension brings new possibilities

Two-dimensional GS1 DataMatrix barcodes can hold a lot more information than traditional one-dimensional barcodes with their familiar black-and-white vertical lines. As a result, GS1 DataMatrix offers a wide range of opportunities to optimise business operations and improve supply chain efficiency.

For example, in addition to holding a GS1 Global Trade Item Number® (GTIN®), GS1 DataMatrix can also have a product's batch or lot number, expiry date and serial number. Furthermore, by connecting to the web using a specialised app, additional product information can also be made available.

First soups and salads, then all Nowalijka products for Żabka

In 2023, Żabka worked with Nowalijka - one of Poland's largest fruit and vegetable companies and a key Żabka supplier of private-label products like soups and salads - to roll out GS1 DataMatrix. It aimed to meet Żabka's specifications for detailed product data for all Nowalijka trade items. Notably, Nowalijka became one of the first companies in retail to implement GS1 DataMatrix on its products.

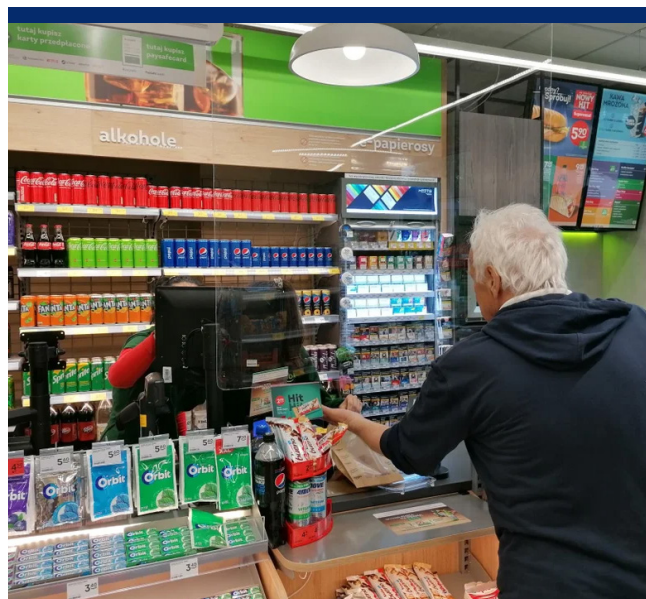
The goal was to enhance the management of short-shelf-life products by enabling the tracking of each item - from manufacturing to shelf - across more than 11,000 Żabka stores, while also facilitating fast product recalls when necessary. Nowalijka implemented GS1 DataMatrix, embedding a GTIN, batch/lot number, expiry date and serial number, making that all possible.

With support from GS1 Poland, Nowalijka worked to define the technical specifications for generating GS1 DataMatrix barcodes and printing them on individual soups packages. The barcode scanning equipment at Żabka stores was already equipped to scan GS1 DataMatrix and process the data, which streamlined the implementation process.

The initial preparatory phase focused on thoroughly reviewing the GS1 implementation guidelines for 2D barcodes and configuring the software used for generating GS1 DataMatrix barcodes. Measure were taken to ensure that the piece counter operated without creating duplicate entries. This phase also involved close collaboration with the software provider, Clarisoft, to address specific requirements and resolve any queries. The generated and printed GS1 DataMatrix barcodes were rigorously tested for readability. Nowalijka employees received training on scanning GS1 DataMatrix barcodes to ensure seamless adoption.

Big success, clear benefits

The roll-out of GS1 DataMatrix has been a huge success. Its implementation has improved restocking, reduced product unavailability, enhanced data synchronisation efforts,



Thanks to GS1 DataMatrix on Nowalijka's fresh products, Żabka has a stronger, more efficient supply chain, with improved performance at every stage, from production to sale

increased scanning accuracy, enabled better shelf-life management and allowed the retailer to automate certain discounts. It has also streamlined routine tasks, such as receiving deliveries.

Żabka and Nowalijka are committed to ensuring the fresh food they sell is safe and satisfying. GS1 DataMatrix barcodes on Nowalijka products with encoded GTIN, batch/lot number, expiry date and serial number provide an advantage by making this data available across the board. They enable precise identification of individual items and their specific store locations, allowing quick and accurate recalls of any poor-quality products. GS1 DataMatrix, which contains this extensive product data, also improves expiration date management, allowing Żabka to know when to discount specific products and ensuring no items are sold past their expiration date - another critical aspect of customer safety, and one that helps reduce food waste as well.

Furthermore, faster barcode scanning has improved the performance of both Nowalijka and Żabka employees across all stages, from production to warehousing and stores.

And it's not just the leaders at Żabka and Nowalijka who are pleased: a 2023 survey of Żabka franchisees and their employees revealed that even at the individual store level, the use of GS1 DataMatrix is seen as a positive improvement, boosting franchisee satisfaction by 47%.

With GS1 DataMatrix and its ability to hold critical product information, Żabka ensures products are fresh, safely managed and easy to track, creating a reliable shopping experience for consumers every day



Awarded for their innovation leadership

The satisfaction goes well beyond the walls of the Żabka and Nowalijka companies: At the 2023 edition of the KOD of Innovation Conference, organised by GS1 Poland, Żabka and Nowalijka won the Innovation Award in the Large Companies category. The competition spotlighted 2D barcode projects and celebrated companies leveraging GS1 standards for sustainability, particularly for reducing food waste. Żabka's and Nowalijka's pioneering use of GS1 DataMatrix barcodes impressed the jury with its positive impact on product management, customer safety and waste reduction.

The right choice for today's retail sector

In today's fast-paced supply chains, ensuring accurate product tracking and information sharing is essential. It's why Żabka plans to expand the use of GS1 DataMatrix on fresh produce, pre-packaged salads, cold cuts, ready-to-cook food, ready-to-eat meals and more.

GS1 DataMatrix offers brand owners like Nowalijka and retailers like Żabka a powerful way to store large amounts of detailed product information in a small space. Batch numbers, expiry dates and serial numbers are all critical for tracking items through complex distribution networks. As a global standard, GS1 DataMatrix not only ensures data consistency across borders but also can help reduce errors and enhances efficiency in any industry that needs reliable product information on demand.

**Żabka franchisee satisfaction
up 47%**

Next-generation barcodes to meet new expectations

Next-generation barcodes, such as QR Codes powered by GS1 and GS1 DataMatrix, bring a whole range of ways to improve business operations and deliver new experiences for consumers, simply by holding a lot more information while still going "beep" at checkout at point of sale.

In addition to holding the GS1 GTIN®, these high-capacity barcodes can also have a product's batch or lot number, expiry date, serial number and more. 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, and simplify recall and return processes.

QR Codes powered by GS1 are also great for engaging with consumers because they allow easy web access via smartphones.

Both can encode GS1 standards, making them powerful tools for reliable tracking, compliance and safety in complex business environments.

About Nowalijka

Nowalijka is a leading player in the fruit and vegetable industry since 1999, both manufacturing and wholesaling its products. With 100% Polish capital and its own fields, the company produces a wide range of products, including herbs, soups, vegetables, lunchboxes, salad mixes, salads, and vegetable meals. Nowalijka partners with Poland's largest retail chains, reinforcing its strong presence in the market.



About Żabka Polska

Żabka is a franchise-based retail chain of small convenient stores operating in Poland, responding to the needs of millions of customers every day. For more than 25 years of its presence on the Polish market, the company has established itself as a leader in the modern convenience segment. The underlying idea behind the chain's operations is being located and also offering convenience to customers, who can do quick shopping in more than 11,000 stores, take advantage of a wide range of services or have a quick hot snack served at the Żabka Café.

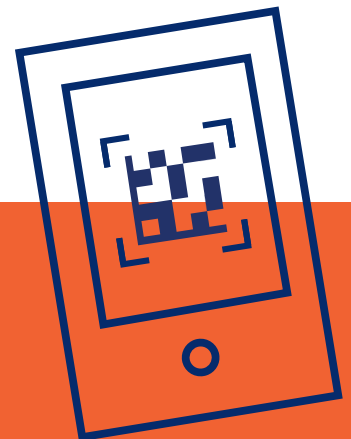
www.zabka.pl



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 next generation barcodes!

Contact your GS1 Member Organisation to see how GS1 can help you begin your journey toward next generation barcodes!

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