



Laying the foundations for scalable growth with GS1 standards



Executive summary


Legrand Electric, a global leader in electrical and digital building infrastructures, operates across a diverse range of markets from residential and commercial to industrial sectors. With a presence in nearly 90 countries and product distribution across more than 170, Legrand serves a substantial and diverse customer base worldwide. Within the UK, the company manages a vast and complex inventory of over 50,000 product lines flowing through multiple warehouse locations.

But, like many organisations within the industry, its operations were being held back by manual legacy systems, making it difficult to trace stock, track inventory and support warehouse teams efficiently.

To overcome these challenges, Legrand undertook a transformative project to digitalise warehouse operations using GS1 standards. Central to this was the adoption of the Global Trade Item Number (GTIN), integrated into a new Warehouse Management System (WMS) and linked via API to the company's existing ERP platform.

This enabled Legrand to uniquely identify, locate and track products in real-time, whether manufactured in-house or sourced from international suppliers, enhancing efficiency, visibility and data consistency across the entire supply chain.

As a result, Legrand has increased shipping volumes by over 20 per cent, optimised staff allocation by reducing manual workloads, and improved cross-brand interoperability and product traceability. On top of these benefits, the company's alignment with GS1 standards will help to futureproof operations for scalable growth and greater sustainability.



“A Warehouse Management System powered by Global Trade Item Numbers turns inventory into intelligence—streamlining operations, reducing errors, and enabling real-time visibility from shelf to shipment.”

Neil Ritchie, database manager, Legrand

Why product data matters

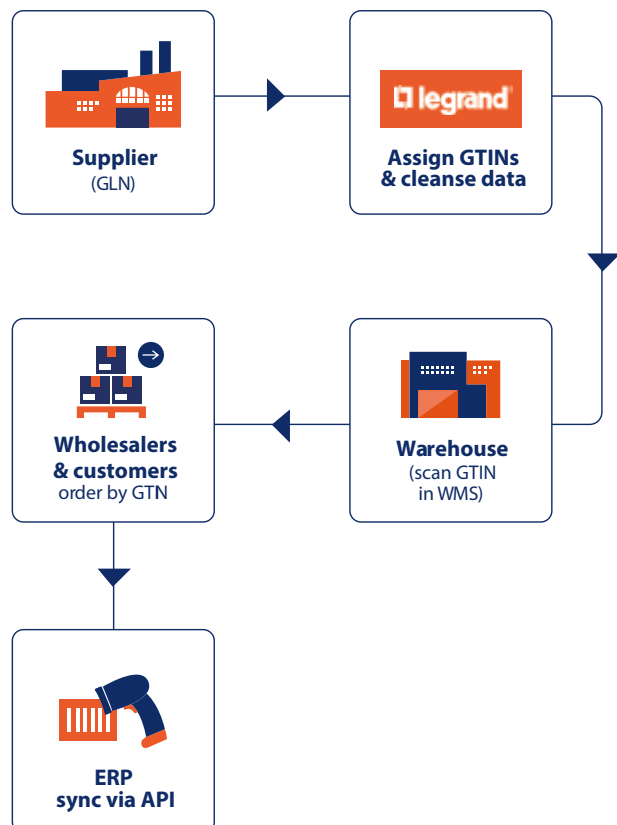
Across the construction sector, accurate and timely product data is crucial. Each project typically involves a multitude of components sourced from numerous suppliers, making effective management and traceability of these products essential. Incorrect or incomplete data can lead to significant delays, increased costs and heightened safety risks, particularly in large-scale and infrastructure-critical projects.

Warehouse and inventory challenges also significantly impact productivity, safety and cost management. Without precise visibility of stock, companies often struggle with inefficient product rotation, waste and the potential for human error. Misplaced products and incorrect inventory records can halt progress, increase labour costs and even pose safety hazards if incorrect components are used. Manual processes further exacerbate these issues.

GS1 standards play a pivotal role in overcoming these hurdles, most notably the Global Trade Item Number (GTIN). By providing a unique and universally recognised identifier for products, they facilitate seamless information sharing, enhance data accuracy and enable comprehensive traceability across the supply chain.

The digital transformation they enable aligns with the broader regulatory landscape, especially following recommendations from the Hackitt Report which highlights the importance of transparent, traceable and reliable product data to improve building safety and accountability.

Through GS1 standards, manufacturing companies like Legrand Electric can digitise their operations effectively to create safer, more efficient and cost-effective construction supply chains. This can help to position their organisations to better respond to regulatory demands, industry best practices and evolving market expectations.





Legrand UK

Employing over 38,000 people worldwide, Legrand designs and manufactures an extensive range of products from wiring devices and cable management solutions to advanced digital infrastructures and building automation systems.

Within the UK, Legrand operates through multiple distribution centres and warehouses, strategically located to serve their diverse customer base. The company's extensive inventory includes approximately 30,000 items manufactured internally and around 12,000 factored-in products sourced from various international suppliers. This extensive product range supports a wide array of customers, including major electrical wholesalers such as CEF, Edmundson and Rexel, as well as large-scale infrastructure projects.

Legrand UK's commitment to innovation, operational excellence and customer-centric service makes it a pivotal player in the construction and electrotechnical industries.



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The scale of the challenge

With more than 50,000 product lines moving through multiple warehouse locations, Legrand Electric UK was managing a complex and high-volume operation. As customer expectations grew and project timelines became tighter, the business saw an opportunity to strengthen visibility, improve consistency and reduce its reliance on manual processes.

At the time, inventory was managed using spreadsheets and physical stock checks, with data manually entered into the ERP system via API connections. These practices had supported the business for many years but were becoming increasingly difficult to scale as order volumes increased and product ranges expanded.

Product identification was one area that required closer attention. While many internally manufactured items carried GTINs, this was not applied consistently across the entire range. Products sourced from external suppliers often arrived without barcodes or with non-standard labelling, meaning warehouse staff had to identify and enter information manually. This added time and complexity to day-to-day operations and made it harder to maintain accurate records.

At full capacity, the warehouse handled around 700 outbound order lines and 200 tonnes of goods per week. Inbound volumes averaged 400 lines each week. These figures reflected the scale of the operation but also highlighted that without consistent barcoding and real-time visibility, further growth would be difficult to support.

Inconsistencies in product data also made it harder to integrate with key partners, including wholesalers and customers involved in large-scale infrastructure projects.

Recognising the need for a more connected approach, Legrand made the decision to adopt GS1 standards and implement a new Warehouse Management System. This created the foundation for faster, more efficient processes and improved traceability across its supply chain.

Operational challenges before GS1 UK



Inventory

Manual stock checks



Identification

Inconsistent labelling



Integration

Harder partner connections



Building a smarter supply chain

Selecting GS1 standards was a strategic decision driven by several factors: alignment with customer expectations, compliance with evolving regulatory requirements and the need to ensure consistency across the Legrand Group's extensive global operations.

Wholesalers, including major customers such as Edmundson and Rexel, were increasingly demanding standardised, barcoded products to streamline their procurement processes. The adoption of GTINs provided Legrand with a universal, interoperable solution that seamlessly met these requirements, ensuring clarity and precision in all transactions.

Internal teams undertook a thorough review and standardisation of their data, ensuring all internally manufactured items and externally sourced products were assigned consistent GTINs. Close collaboration across purchasing, warehousing, IT and logistics teams, was required to ensure accurate and complete product data was captured and digitised.

The implementation of a new Warehouse Management System (WMS), designed to fully integrate GS1 standards into Legrand's warehouse operations, was also key.

The WMS provided real-time visibility of inventory across Legrand's two primary warehouse sites, significantly reducing the manual effort previously required for stock management and rotation. Warehouse operatives could now simply scan GTIN barcodes to instantly access product information, accurate stock locations and real-time updates.

Another critical component was the integration of the WMS with Legrand's existing ERP system via API technology. This automated data flows between operational and administrative processes, ensuring consistency, accuracy and up-to-date tracking across the entire organisation. By digitally connecting warehouse data with core business systems, Legrand dramatically reduced data entry errors, improved data reliability and significantly enhanced decision-making capabilities.

Putting the plan into practice

Adoption and implementation were carefully planned, strategically phased and comprehensively supported. Legrand's digital transformation journey unfolded across three primary phases: data cleansing, system integration and extensive staff training.

The first phase—data cleansing—was essential for laying a solid foundation for subsequent steps. Given the extensive catalogue of more than 50,000 SKUs, Legrand faced a mammoth task in reviewing, standardising and correcting the data. This involved identifying incomplete or inconsistent product information, aligning legacy part numbers and ensuring each SKU had a correctly assigned GTIN. Particular attention was given to external, “factored-in” products, which often arrived without adequate barcodes.

Next came the system integration phase. Legrand implemented a robust WMS platform at its key warehouse sites, selecting a software solution from Mapics, renowned for its compatibility with GS1 standards. Integration with their existing ERP system was executed through secure, real-time API connections, allowing for immediate data synchronisation and smooth operational flow between warehousing and administrative systems.

Technical choices included standard barcode formats, predominantly EAN-13s, to ensure universal readability by scanners and compatibility with wholesaler systems.

Interoperability with suppliers and third-party systems was prioritised throughout. Given Legrand's extensive interactions with wholesalers, contractors and large-scale infrastructure projects, it was crucial that the system supported effective communication. GTIN adoption ensured precise product identification during cross-docking operations and procurement processes, substantially improving the reliability and efficiency of transactions with external stakeholders.



Overcoming hurdles

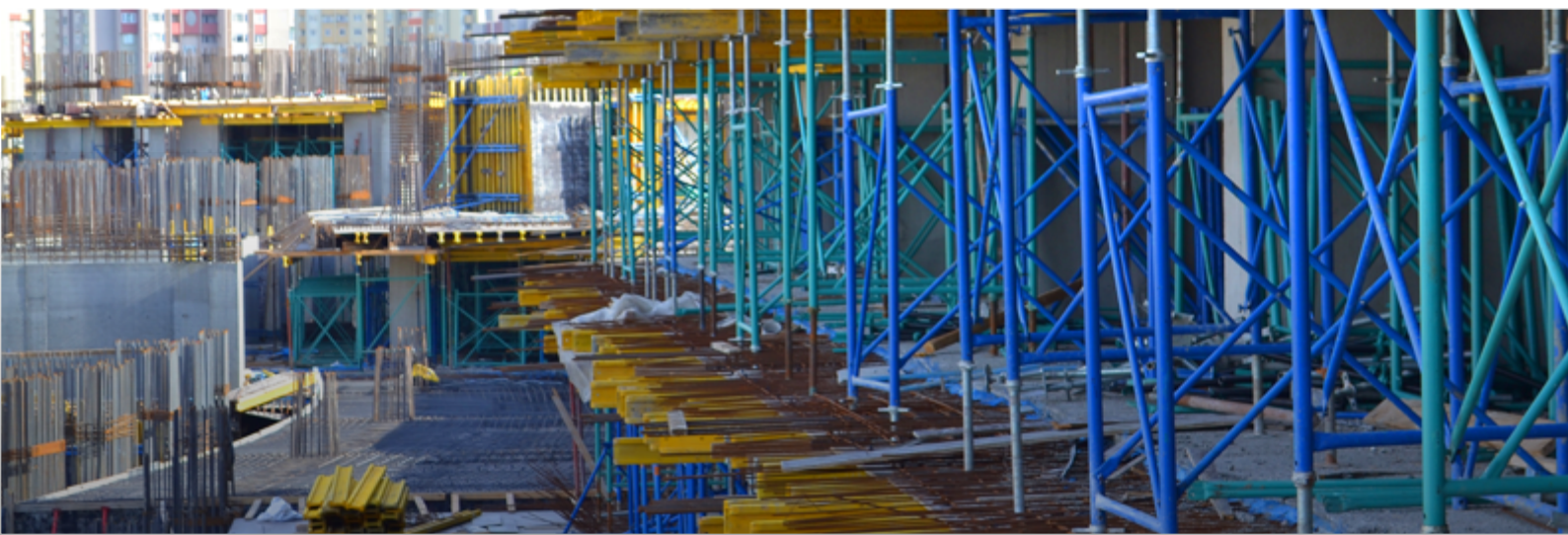
The journey was not without its challenges. Early on, significant barriers arose from gaps in product data, particularly incomplete dimensional data, inconsistent legacy numbering systems and resistance to new digital processes among staff accustomed to existing systems.

Data gaps, notably for externally sourced products, required dedicated follow-ups with suppliers. Legacy part numbers created confusion and misalignment during the integration, demanding meticulous cross-referencing to eliminate duplication and inaccuracies.

To address these challenges, Legrand adopted several strategic measures. Internally, a clear barcode allocation policy was implemented: any product arriving without a GTIN was promptly assigned a Legrand-generated barcode, with the option to overwrite this once supplier-provided GTINs became available. This systematic approach significantly streamlined data consistency and stock traceability.

Legrand leveraged comprehensive support and training from GS1 UK, holding regular workshops and training sessions to familiarise teams and management with GTIN-based identification, new software and inventory handling protocols.

This training played a crucial role in helping harness the full benefits. Employees were progressively introduced to the new digital workflows, receiving practical demonstrations of barcode scanning and real-time tracking, gradually building confidence and proficiency in the system.



Impressive results

GS1 standards adoption has delivered measurable and transformative results for Legrand UK. By addressing long-standing inefficiencies and data inconsistencies, the business has significantly increased productivity, optimised workflows and improved service for both wholesalers and end clients.

One of the most striking indicators of success has been the uplift in operational throughput. Weekly outbound shipping volumes rose from approximately 700 lines to 900 lines—an increase of nearly 30 per cent—with total tonnage growing from 200 to 250 tonnes. Similarly, goods received into the warehouse rose from 400 to 550 lines per week, demonstrating a substantial improvement in Legrand's capacity to process, track and manage inventory. These enhancements were made possible through greater automation, reduced manual handling and improved visibility of stock.

The time saved through automation has allowed for a strategic redeployment of staff. Previously, two dedicated warehouse teams were responsible for manually managing product rotation and inventory across the company's two main sites. These resources have now been redirected to higher value areas of the business.

Procurement processes have seen a notable improvement. The ability to identify products precisely has significantly enhanced ordering accuracy as Wholesale partners such as Rexel and Edmundson can now specify the exact item required using its GTIN.

From a customer service perspective, the benefits have been equally impactful. Warehouse operatives can now scan any product and instantly retrieve detailed information such as part numbers, descriptions and quantities, regardless of whether they are new or experienced. This has significantly accelerated order fulfilment and reduced the number of customer service issues related to incorrect or missing items.

The integration between the WMS and Legrand's ERP platform has strengthened backend processes such as invoicing, credit memos and returns. Although not directly monitored by the warehouse team, early indications suggest a reduction in transactional discrepancies, further evidence of improved data quality and traceability.

The overall result is a leaner, smarter warehouse that supports Legrand's strategic goals and delivers enhanced service to its supply chain partners.



Shipping up 30%

Weekly outbound lines rose from 700 to 900



Scaling up

Tonnage shipped grew from 200 to 250 tonnes



Operational uplift

Inbound goods jumped from 400 to 550 lines per week



Lessons learned

Legrand's GS1 standards adoption journey offers valuable insights into what it takes to deliver successful digital transformation across complex supply chains. First and foremost, it highlights the importance of starting with accurate, well-structured product data. Without it, even the most advanced systems cannot function effectively. Investing time in data cleansing and validation upfront has paid significant dividends throughout this rollout.

Cross-functional collaboration was another critical factor. The project required input from IT, warehousing, procurement and supplier relations with each playing a vital role in ensuring the solution was not only technically sound but also practical and scalable.

Engaging frontline staff early and offering hands-on training helped build confidence in the new system and ensured smooth adoption across sites.

For businesses considering a similar transformation, Legrand strongly recommends adopting GS1 standards from the outset. GTINs provide the foundation for consistency, traceability and seamless integration, both internally and with partners. Industry-wide standardisation is not just a technological upgrade; it's a strategic enabler for collaboration, efficiency and growth.



What's next?

Building on the success of its initial implementation, Legrand UK is now focused on scaling its digital transformation journey across the wider organisation.

Looking ahead, Legrand is exploring the adoption of additional GS1 standards to strengthen its digital infrastructure. The Global Location Number (GLN) and Global Individual Asset Identifier (GIAI) are under consideration for improved location tracking and asset management, particularly within complex project environments. At the same time, Electronic Product Code Information Services (EPCIS) could play a vital role in future traceability enhancements, enabling the secure exchange of product movement and lifecycle data in real time.

The company is also evaluating the use of advanced data carriers such as QR codes powered by GS1 to get richer product data directly on packaging. This could support both internal efficiency and external compliance needs by enabling quick access to technical specifications, sustainability credentials, lifecycle documentation and more, directly at the point of use.

Legrand's global footprint makes cross-border GTIN visibility increasingly important. Ensuring consistent product identification between European and UK operations is a growing focus and continued collaboration with GS1 UK will help harmonise standards and eliminate friction in international logistics and procurement.

Legrand aims not only to optimise its own performance, but to act as a key contributor to a more connected, transparent and sustainable construction supply chain.



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 118 neutral and independent GS1 organisations operating worldwide.

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