

# Transforming Retail Operations with Electronic Shelf Labels: Efficiency, Personalisation, and Beyond

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In today's fast-paced retail environment, businesses are constantly seeking innovative solutions to streamline operations, improve customer experience and stay competitive. Electronic shelf labels (ESLs) have emerged as a game-changing technology that not only reduces manual effort in pricing management but also opens new possibilities for personalisation, wayfinding and enhanced customer engagement. This whitepaper explores the multifaceted benefits of ESLs and how they can revolutionise the retail landscape.







## Efficient pricing management

One of the primary advantages of ESLs is their ability to automate pricing management. By enabling centralised pricing control, ESLs eliminate the need for manual price changes, reducing labour costs and minimising the risk of human error. Retailers can easily update prices in real-time, ensuring accuracy and consistency across all store locations. This efficient pricing management system allows retailers to respond quickly to market dynamics, competitor pricing and promotional activities. Centralised control of pricing also allows retailers to use filters like geography, weather conditions, trends and store specific sales data to alter pricing strategically to suit a number of commercial objectives.

## Dynamic pricing and promotions

ESLs offer retailers the flexibility to implement dynamic pricing strategies and targeted promotions. With the ability to change prices instantly, retailers can optimise their pricing based on factors such as demand, inventory levels and customer behaviour. ESLs also enable retailers to display personalised promotions and discounts to individual customers, leveraging data from loyalty programs and purchase history. This targeted approach enhances customer engagement and drives sales growth. Finding ways to get customers to authenticate in a way that is meaningful to them but can also be utilised to drive in shop personalisation, is going to be an important aspect of customer engagement moving forward. Retailers will not be able to effectively leverage an investment into in-store media or ESL if they cannot identify the customer and utilise their purchase history. Authentication must be both easy and drive unique utility or value for the customer or customers will actively resist.

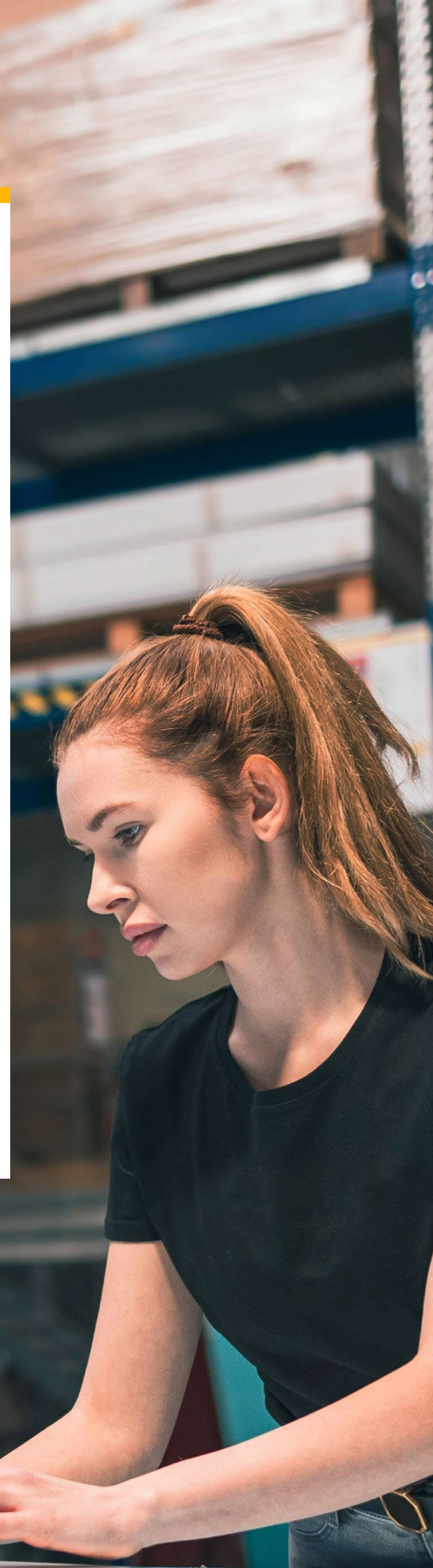


## Personalisation and customer experience

ESLs provide a platform for personalised shopping experiences. By integrating with customer-facing mobile applications, ESLs can display tailored product information, recommendations and reviews based on a customer's preferences and past purchases. This level of personalisation enhances customer satisfaction and loyalty. Additionally, ESLs can support wayfinding capabilities, guiding customers to specific products or sections within the store, saving time and improving the overall shopping experience. An example of this is a customer seeking gluten-free options which may exist in multiple locations in a grocery planogram. There are many other examples aligned with customer decision making which specific ESL products can support. Obviously, larger format ESLs can also be used for promotions based on time of day or other known factors as well as personalised offers and promotions if the customer is authenticated.

## Operational efficiency and staff productivity

ESLs not only benefit customers but also empower store staff. With real-time inventory information displayed on ESLs, employees can quickly locate products and assist customers more effectively. ESLs can also integrate with staff-facing applications, providing guidance on restocking, merchandising and task management. By automating routine tasks and providing instant access to product information, ESLs enable staff to focus on delivering exceptional customer service and enhancing operational efficiency.







## Omnichannel integration and Near Field Communication (NFC)

ESLs can seamlessly integrate with a retailer's omnichannel strategy, bridging the gap between online and in-store experiences. By incorporating NFC technology, ESLs enable customers to access detailed product information, reviews, and even make purchases directly from the shelf using their smartphones. This contactless payment option provides a convenient and secure shopping experience, reducing checkout times and increasing customer satisfaction.

## Real-time inventory management and supply chain optimisation

ESLs can be integrated with inventory management systems to provide real-time stock information. This integration helps retailers optimise inventory levels, reduce stockouts and improve overall supply chain efficiency. By having accurate and up-to-date inventory data readily available, retailers can make informed decisions about replenishment, distribution, and logistics, ultimately leading to better customer service and increased profitability. There are even ESLs with integrated cameras which can be used for a number of other applications including stock management, slip detection, customer behaviour analysis and theft prevention.

## Energy efficiency and sustainability

Modern ESLs often use low-power e-paper displays and long-lasting batteries, making them an energy-efficient and eco-friendly solution compared to traditional paper labels. This aspect can be appealing to environmentally conscious retailers and customers who prioritise sustainability. By adopting ESLs, retailers can reduce their carbon footprint, minimise paper waste and contribute to a greener retail environment. Some ESL applications would require power to the shelves.





## Compliance and risk mitigation

ESLs can help retailers ensure compliance with pricing regulations and consumer protection laws. By automatically updating prices and promotions, ESLs reduce the risk of discrepancies between displayed prices and prices charged at the checkout. This compliance reduces the likelihood of costly fines and legal issues. Moreover, ESLs minimise the risk of human error in pricing, protecting retailers from potential reputational damage and customer dissatisfaction.

## Data analytics and insights

ESLs can provide valuable data on customer interactions, product popularity and pricing effectiveness. When combined with analytics tools and artificial intelligence, this data can yield insights for optimising pricing strategies, product placement and promotional campaigns. Retailers can leverage these insights to make data-driven decisions, improve overall store performance and enhance customer satisfaction.

## Cost-saving potential and ROI

While implementing an ESL system requires an initial investment, it can lead to significant cost savings in the long run. ESLs eliminate the need for manual labour in price changes, reduce paper waste, and minimise the risk of costly pricing errors. Additionally, the increased operational efficiency, improved customer experience, and potential for revenue growth contribute to a strong return on investment for retailers.



Electronic shelf labels have revolutionised the retail industry by offering a multitude of benefits that extend beyond simple pricing automation. From enhancing operational efficiency and enabling personalised experiences to improving sustainability and compliance, ESLs provide retailers with a competitive edge in today's dynamic market.

The integration of ESLs with real-time inventory management, analytics, and AI opens new opportunities for retailers to optimise their operations, make data-driven decisions and deliver exceptional customer service. Furthermore, the cost-saving potential and strong ROI make ESLs an attractive investment for retailers seeking to streamline their processes and boost their bottom line.

As technology continues to advance, the capabilities of ESLs will expand, enabling even greater possibilities for retailers to engage with customers, drive sales and adapt to the evolving retail landscape. By embracing ESLs and their wide-ranging benefits, retailers can position themselves for success in the digital age, meeting the ever-changing needs and expectations of modern consumers.

In conclusion, electronic shelf labels are a powerful tool that can transform the retail industry, providing retailers with the agility, efficiency and customer-centricity needed to thrive in an increasingly competitive market. As more retailers adopt this technology, we can expect to see a new era of retail innovation, where the seamless integration of digital and physical experiences becomes the norm, and customer satisfaction reaches new heights.