



By Albert Swanepoel
Brand Align Creative Marketing

Electronic shelf labels & automation

There are compelling reasons for uptake and growth in the adoption of Electronic shelf labels (ESL), after the original slow start. ITWeb points out that a few South African retailers ventured into ESL as early as 2006, at a time when the cost was hard to justify.

Fast forward to 2026 and it's clear that ESL is increasingly finding mainstream support among South African retailers. Grand View Research, in their electronic shelf label market report, highlights the fact that examples from global pioneers show that the uptake process in the US and Europe started accelerating once a few critical forces started aligning, such as proof of ROI, lower cost per label, increases in labour cost pressures and better systems integration. These forces could not play the same role during this time in South Africa, but various factors have now matured that is making adoption more viable.



Vernon Naik

Vernon Naik, director at Price Wizard, believes that “the ESL market is currently experiencing an inflection point”, and that, “from Price Wizard’s direct experience, inquiry volumes have increased substantially over the past 18 months.



<https://stockcake.com/i/scanning-grocery-itemshttps>

The conversation has shifted from “why should we consider ESLs?” to “how quickly can we implement and what is the realistic payback period?” Naik adds: “South African retailers are now actively requesting proposals and conducting pilot evaluations, mirroring the European trend.”

The South Africa-specific dataset from Grand View Research confirms that ESL adoption locally is

mostly scale-driven and growing rapidly. They also show that retail automation has gradually taken hold and since ESL integrates with it technologically, it has become an important consideration to use together. In South Africa cost has been an obvious impediment, especially during the early days – from around 2006 – and it likely took its toll on early corporate adopters and adventurous family stores. But these costs naturally follow a downward trajectory through scaling and volume benefits, as well as rapidly increasing technological advances – with inevitable economies of scale.

Simply put, hardware has become cheaper, consistently increasing ESL appeal.

A SPAR case study provided by ITWeb, looks at data from 2008 and sheds some light on the trends with this deployment data ...

~10000 ESL tags per average store
System cost: ~R1.2 million per supermarket
Payback period: ~18 months per store

While retail in South Africa may consider the examples set by international counterparts, our





THE FUTURE OF INNOVATION IS NOW

Electronic Shelf Labels (ESL) are transforming the in-store retail experience by replacing traditional paper labels with dynamic, digital pricing displays. Installed directly on shelves, ESLs allow retailers to update prices, promotions, and product information instantly and centrally – ensuring 100% price accuracy across every store, every aisle, every time.



Pricewizard has been in the retail industry for over 40 years. We are extremely proud to represent **Hanshow**, one of China's leading electronic shelf labelling manufacturers & distributors in the Chinese & European markets.



POLARIS PRO RANGE OF ELECTRONIC SHELF LABELS

- Multiple Colours.
- 8 pages storage.
- 7 colours flashing.
- 10 year battery life.
- Thinner & Battery – replaceable design.
- More flexible in placement.
- Green and low carbon design.
- Higher screen to body ratio.
- Larger display, Thinner Bezel.
- 3H surface hardness for better scratch resistance.

PRICEWIZARD SHELF LABEL ELECTRONIC PRICING SOLUTIONS



Beyond pricing, ESLs enhance operational efficiency, eliminating manual label changes, reducing labour costs, and minimising pricing errors that can lead to customer dissatisfaction. They also enable real-time promotional flexibility, seamless integration with inventory and POS systems, and clearer, more engaging shelf communication for shoppers. In-store, ESLs create a cleaner, more modern retail environment while empowering retailers with smarter data, faster execution, and improved compliance. The result is a more agile store operation, happier customers, and a future-ready retail floor designed to keep pace with today's fast-moving market.



Lumina Slim represents a new generation of electronic shelf labels, where elegant design meets advanced technology. The ultra-thin and sleek construction combined with a sharp full-colour display provides a visual experience that enhances the store's appearance and strengthens communication with customers.



M: +27 (0) 83 777 7043 | O: +27 (0) 86 166 6349
www.pricewizard.co.za | info@pricewizard.co.za
 2nd Floor, Block C, Oxford Gate, 54 Oxford Street, Durbanville, Cape Town, 7551

www.posisolve.co.za | info@posisolve.co.za
vernon@posisolve.co.za | positronpmb@wol.co.za



unique challenges dictate different methods and timing. As adoption slowly marches on, it's worth spending more time with this evolutionary system and understand how it works.

In a nutshell, some retailers are adopting because of dynamic pricing (the ability to react to competitors instantly); pricing accuracy (eliminating mismatch at checkout); operational savings (less manual labour); customer experience improvements (boosting trust); and inventory visibility and reduced waste (sustainability).



Minesh Manga

Minesh Manga, Cluster Executive for NEC XON explains: "Pricing accuracy may have been the initial drawcard, but the built-in technological advances – since our company's first implementation for Safari Superstore Rustenburg, in 2006 – now offer ground-breaking management tools which overshadow the original functionality." For example, he says ...

“ Many retailers have found that high percentages (often over 20%) of stock thought to be on the shelf, turn out to be in the warehouse, or are unaccounted for.

Labels can be programmed with different types of information and now alert managers or merchandisers on the spot, after hours, with colour-coded flashing lighting. ”

<https://pricewizard.co.za/>



Labour cost reduction and improved operational efficiency.

The labour cost of changing prices manually can, over time, tip the scales, particularly if labour cost rises within the industry, something Naik believes has reached a tipping point: 'industry pilots show ESLs reduce paper tag labour by 60-90% according to International Supermarket News, May 2026.' With labour more expensive, ROI reinforces the benefit of adoption more easily."

Shelf pricing has always added a layer of cost and risk, driving labour costs and creating consumer distrust when mistakes are made. Electronic labels eliminate the work involved when printing the labels and matching them with products accurately.

Manga affirms: "Labour costs in South Africa are still cheaper than in many other countries, resulting in a slower pace in uptake than was the case abroad."

Enhanced customer trust

A common frustration for shoppers is arriving at an empty shelf with the price tags still there. In contrast, some of the more sophisticated ESL options will display 'temporarily out of stock' messages and give staff the option of using a mobile app to make specific ESL tags flash, guiding them to the right location. They don't need to wander aisles with lists, possibly placing products in the wrong spots.



Automation and integration

ESL systems are increasingly integrated with AI-driven analytics platforms to optimise pricing and promotions dynamically.

The AI and analytics tools, acting as IoT endpoints feed data that allow for demand forecasting, margin optimisation and effective promotional application.

Naik highlights a few benefits ...

“ AI-powered pricing strategies are maturing, enabling real-time adjustments and time-based promotions that reduce food waste. Also, shrink reduction is enabled through automated markdowns – ESLs allow markdowns to run on rules (inventory age, sell-through thresholds) without manual intervention. ”

Source: Sumner Makin, Bain & Company, August 2025

The shift toward real-time, dynamic pricing

Large and medium-sized retail operations, including hypermarkets and supermarkets, increasingly use real-time inventory management while boosting their customer experience. They have come to rely on highly efficient and dynamic pricing systems to manage frequent price changes, promotions, and product rotations. Large retailers particularly, but not exclusively, find value in the ability of ESLs to allow for centralised and real-time price updates, reducing the cost of manual labour and risk of pricing errors.

<https://stockcake.com/i/corporate-strategy-meeting>



AI and data-driven pricing strategies

ESL integrates with analytics tools to enable smarter, demand-based pricing and margin optimisation. The primary driver for the ESL industry is retail automation that helps organisations to link pricing systems with technological systems that can instantly update prices. More outlets are investing in automation, making use of enhanced system integration offered by IoT connectivity, giving ESL systems the ability to also provide inventory visibility when retail operations are connected.

Here ESLs play a considerable role in enhancing the consumer experience, where it excels at its role of enhancing promotional agility: it can instantly launch flash promotions, discounts, and present loyalty offers across multiple stores, literally within seconds.

A strategic tool

ESLs can become a strategic tool for retail management, allowing them to dynamically adjust pricing based on competitor pricing strategies, promotions and inventory levels – directly increasing profitability and customer satisfaction. Dynamic pricing does even more – retailers can adjust prices in real-time, based on market demand and in response to consumer behaviour, but importantly also on the historically difficult time of day and product availability.

Manga shares some of the game-changing characteristics of some modern electronic labels: “Besides the ability to show the product name, product image, price, popularity, current promotions and other characteristics to the customer, crucial statistics can be accessed by the store

PRICER

Electronic Shelf Labels

The fastest, most scalable, future-proof and reliable shelf-edge communication platform in the world.

SmartTAG Colour

The display offers four-colour support, high-resolution graphics, up to 10 years of battery life, integrated NFC, and multi-colour flash (7 colours) for versatile merchandising and inventory management.

SmartTAG Power & Power+

This full graphic, e-ink display offers up to 10 years (Power + - 15 years) of battery life, multi-colour flash (7 colours), integrated NFC, multiple pages for merchandising, and sizes from small to large, including freezer labels.

HangTAG

This slim, durable label is designed for dual-arm peg hooks, saving 16% of sales space and offering long-lasting, replaceable batteries.

SmartTAG HD

These full graphic e-ink labels offer 30,000 updates per hour, NFC support, green flash, and come in four sizes, including a patented freezer label.

Bringing trust to Retail

www.nec.africa/retail.html

pricersales@nec.xon.co.za

(+27) 11 237 4500

(+27) 72 225 3393

Digitising the modern retail store

NEC XON and PRICER Connected Shelf Edge Technology Drives Accuracy, Efficiency and Agility

Retail is changing faster than ever. Rising operational costs, complex promotions, supply chain volatility, and increasingly informed customers are placing unprecedented pressure on store environments. To remain competitive, retailers require connected, efficient, and data driven systems that respond instantly to both customer expectations and market demands.

NEC XON's Retail Solutions, powered by PRICER, enable end-to-end in-store digitisation through electronic shelf labels, automation, and analytics, transforming how retail stores operate at shelf level and beyond.

From Slow, Manual Processes to Real-Time Control

Traditional paper-based pricing is labour-intensive, error-prone, and slow to adapt. In high volume retail environments, price changes can involve thousands of labels, hours of staff time, and significant operational disruption. Digital shelf edge technology replaces these challenges with real-time control.

PRICER Electronic Shelf Labels use optical wireless communication to update prices instantly and reliably, with minimal energy consumption. Pricing, promotions, and product information are synchronised directly from back office systems to the shelf, ensuring consistency between shelf, system, and checkout at all times.

The result is near elimination of pricing errors, reduced manual labour, and significantly faster execution of pricing strategies, whether for promotions, markdowns, or regulatory compliance.

A Connected, Automated Store Environment

NEC XON's approach to retail digitisation focuses on four core pillars.

- **Connect:** Digitising the store environment through connected shelf edge and back office systems creates a single source of truth for pricing and product data.
- **Automate:** Pricing, promotions, and inventory processes are automated, enabling rapid response to market changes without increasing staff workload.
- **Optimise:** Data generated at shelf level is used to improve operational efficiency, reduce waste, and increase sales performance through better decision making.
- **Customer Experience:** Accurate pricing, clear promotions, and reliable product availability improve shopper trust and reduce friction throughout the store.

Operational Intelligence at the Shelf

PRICER ESL systems go beyond displaying prices. Store teams gain access to valuable operational insights directly at shelf level, including stock on hand indicators and rate of sale data. This visibility allows merchandisers to identify stock discrepancies, prioritise replenishment, and reduce out of stocks in real time. Visual enhancements such as multi-colour displays, flashing LEDs for promotions, and larger format labels for service departments support clearer communication with customers while maintaining a clean, consistent store aesthetic. These capabilities enable retailers to execute more dynamic promotional strategies, adapt layouts quickly, and support premium product presentation where required.

Scalable, Reliable, and Built for the Long Term

With hundreds of millions of electronic shelf labels deployed globally, PRICER technology has proven its reliability in demanding retail environments. Designed for long operational lifespans and low energy usage, ESL systems provide a strong return on investment while reducing environmental impact through the elimination of paper labels.

NEC XON delivers local expertise, implementation support, and ongoing optimisation, ensuring retailers are not only equipped with the right technology, but also positioned to evolve as retail continues to change.

Enabling the Store of the Future Today

Digitising the shelf edge is no longer a future concept. It is a practical, proven step toward greater accuracy, agility, and customer satisfaction. By connecting, automating, and optimising in store operations, retailers gain the flexibility needed to compete in an increasingly complex landscape. NEC XON Retail Solutions, powered by PRICER, enable retailers to take control of pricing, inventory, and customer experience, one shelf at a time.

Ready to digitise your retail store?

Discover how NEC XON and PRICER Connected Shelf Edge Technology can transform accuracy, efficiency, and agility across your store operations.

Call: **011 237 4500**

Email: pricersales@nec.xon.co.za

Visit: <https://www.nec.africa/retail.html>



manager on every label. Each label display has the capacity to indicate numerous important data stats such as stock levels, geolocation, or statistics about shelf-height (eye-level) impact. Manga says ...

“The beauty of these systems is the power it gives store management to read vital product statistics right there on the shelf edge. The ability to see at-a-glance information on the store floor has resulted in reduction of the occurrence of unavailable stock on shelf (not customer facing) – from double digits to 5%. You can imagine the impact of stock management efficiencies improving by over 20% – in some cases – for chain stores. The compound benefit runs into millions of saved rands. ”

Energy efficiency and battery innovation

Initially power was a concern since it might have negatively impacted efficiency and operational costs. Since the batteries that power ESL devices typically last 5-10 years, depending on use, this is now a less serious issue. Maintenance cycles have therefore been reduced, leading to reduced downtime – something that can have a significant impact for large retail chains. Innovation has brought low-energy label display technology, including welcome improvements in battery lifespan, all impacting reliability. Importantly, it reduces associated operational costs. To sweeten the deal, ESL enhances focus on the bottom line as it uses less paper, making it more eco-friendly.

<https://stockcake.com/i/futuristic-energy-landscape>



Omnichannel price synchronisation

South African consumers increasingly shop online yet still enjoy brick and mortar shopping experiences. ESL enables real-time synchronisation between in-store, online, and mobile pricing, which helps to ensure consistency while building consumer trust. Digital retail activities are on the rise as retailers increasingly automate in-store tasks, allowing for live price updates, ensuring competitiveness with online channels. Sophisticated integration with mobile apps allow customers to create shopping lists that guide them through stores, with ESL tags highlighting exact product locations.

Improving in-store execution and compliance

Industry Research highlights the significant improvements in pricing accuracy: compared to manual paper labels, ESL offer a significant reduction in pricing errors, with up to 98% accuracy rates reported in deployments.

They also state: “Approximately 61% of global installations utilise e-paper displays, with LCD and LED variants covering the remaining share. ESL systems enable dynamic pricing, inventory accuracy, and omnichannel synchronization, which improve retail efficiency by 33% and reduce pricing errors by 89%.”

Shopper engagement & smart displays

Using ESL screens for QR codes, product info, reviews, and even personalised offers. GMinights points out that, based on the product type, the global electronic shelf label market is divided into LCD ESL, segmented E-paper ESL, and full-graphic E-paper ESL.

ROI and payback period

Breaking down the real cost savings vs upfront investment – what retailers can realistically expect. Some ESL suppliers offer professional installations that may be completed without the need of closing the store and – including the installation of a wireless infrastructure and replacement of existing labels – is often completed within a matter of days.

Neuroshop provides detailed assessments to guide ROI decision-making around ESL. They suggest that accurate costing relies on a careful consideration of many different aspects as they relate to a business. For a detailed financial breakdown: <https://neuroshop.tech/blog/electronic-shelf-labels-cost-and-roi?utm>

Retail Format | Realistic Payback

High-volume grocery (Checkers, Pick n Pay scale)	~ 12–24 months
Mid-size supermarket / pharmacy	~ 18–30 months
Low-change retail (DIY, apparel)	24+ months

Neuroshop presents this South Africa – specific breakdown:

- Labour savings are the dominant ROI driver, with SA retailers spending significant weekly hours on manual price updates – often eliminated entirely with ESLs

<https://www.magnific.com/>



- Pricing accuracy reduces margin leakage and compliance risk in a high-inflation, supplier-volatile environment
- Typical payback ranges from 12–30 months, depending on store format and pricing frequency
- While upfront costs remain a key barrier, total cost of ownership becomes favourable within 2–3 years
- ROI is driven primarily by operational efficiency and accuracy gains, not advanced pricing strategies

Local vs global adoption trends

GMinights notes that ESL penetration in South Africa is still relatively low overall since many stores still rely on paper shelf labels, using manual pricing updates.

Despite a clear trend favouring ESL use, the adoption in South Africa is not on a par with, for example, global largest market, Asia Pacific; fastest growing market: North America, or Europe, Australia.





The reasons relate to ...

Cost sensitivity ESL's initial investment costs (labels, RF infrastructure and software) is still an inhibiting factor in the growth of electronic shelf labels. Naik sheds light on the primary hurdle ...

“Retailers often evaluate ESLs based on tag cost alone rather than total cost of ownership, when proper accounting shows payback typically between 12 and 18 months.”

Labour economics

Manual price changes are still relatively cheaper than in developed markets

Infrastructure inconsistency some older stores aren't always optimised for complete RF deployments. Occasionally traditional store-based systems experience integration problems which contribute to the slower growth rate of ESL-based systems. Standardisation might sometimes lack and software and hardware incompatibility can lead to slower adaptation in large chain stores.

ROI scale threshold

ESL benefits (dynamic pricing, automation) matter more at scale

Neuroshop notes that the system is still less scalable across a broad format (supermarkets, convenience stores, forecourts, and large-format retail).

Industry deployments in South Africa suggest that it is not viable for small stores yet (2 000–3 000 SKUs) and likely within reach for large supermarkets (8 000–15 000 SKUs). At this scale a typical pay-back period is estimated to be 18–36 months.

More than store size, these variables determine the threshold: price change frequency; labour costs; error reduction; store format; and integration level.

The international ESL market is expected to see considerable growth with the increasing adoption of digitisation in the retail sector, the fact that dynamic pricing models are increasingly being adopted, and the integration of IoT and smart stores into the world of retail.

“For South Africa” Naik says, “we expect significant adoption to begin in the 2026–2027 time-

frame and accelerate through 2028–2030, driven by rising labour costs, load-shedding-resilient battery solutions, and BEE transformation incentives.”

Conclusion

GMIInsights highlights that, in marketing terms, ESL may still be in an early-to-mid growth market in South Africa. But if the country's retail industry lags behind international counterparts, it still leads the continent as far as adoption, and even trendsetting is concerned.

Rollout has been gradual and selective, but the industry looks to be fast-growing, moving from early adoption to a broader rollout. The pace is picking up on the back of retail digitisation, operational efficiency and automation. **SR**



<https://www.nec.africa/>

Other sources:

www.gminsights.com/www.teraoka.co.za/product/esl
www.dmx.co.za/latest-news/

Who are we?

A trusted source of retail information for over 65 years, our magazine informs and empowers retail business owners to grow whilst tackling current industry topics.

How can we help you?

We connect FMCG brands, and Equipment and Service suppliers to retail decision makers around South Africa. Elevate your brand with our wide variety of digital offerings.

**SUPERMARKET
& RETAILER**
Business knowledge for smart retailers



**Want
to target
real decision
makers?**

SCAN TO
VIEW MAGAZINE



**Let our team
help you with
a digital strategy
that targets
real decision makers**

Contact 011 728 7006

info@supermarket.co.za

www.supermarket.co.za