

# **Electronic Shelf Labels Market Forecasts to 2030 – Global Analysis by Product (LCD ESLs, Segmented E-Paper, Full-Graphic E-Paper and Other Products), Component, Display Size, Power Source, Connectivity Technology, End User and By Geography**

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## **Abstracts**

According to Statistics MRC, the Global Electronic Shelf Labels Market is accounted for \$2.3 billion in 2024 and is expected to reach \$5.2 billion by 2030 growing at a CAGR of 14.3% during the forecast period. Electronic Shelf Labels (ESLs) are digital price tags or displays used in retail environments to show product prices, descriptions, and other relevant information. These labels are typically powered by technologies like e-ink, liquid crystal displays (LCD), or OLED, offering energy-efficient, clear, and dynamic content. ESLs are connected to a central system that allows retailers to update prices, promotions, and product details in real time, reducing the need for manual label changes. By improving operational efficiency, ensuring accurate pricing, and enhancing customer experience, ESLs provide a modern, eco-friendly alternative to traditional paper price tags in stores.

According to the U.S. Bureau of Labor Statistics, compensation costs for private workers in the country increased by 5.1% and wages & salaries witnessed a rise of 4.3%.

Market Dynamics:

Driver:

Operational Efficiency

The electronic shelf labels (ESL) market grows due to operational efficiency, which automates pricing changes, stock management, and product information display. Retailers may cut labor expenses, avoid price mistakes, and expedite inventory procedures with the use of ESLs. Improved stock accuracy, quicker reaction times, and better shelf management are all results of this automation. ESLs are a useful tool for contemporary retail contexts because they enable businesses to increase customer happiness, streamline shop operations, and save operational expense, which propels market expansion.

Restraint:

#### High Initial Cost

The high initial cost of electronic shelf labels (ESLs) can hinder market growth by limiting adoption, particularly among small and medium-sized retailers. The upfront investment required for the technology, including hardware, software, and installation, may deter businesses from transitioning to ESLs. This financial barrier can delay the widespread implementation of ESLs, limiting their potential benefits like improved inventory management, price accuracy, and labor savings, thus it limits market growth.

Opportunity:

#### Technological Advancements

Technological improvements in the electronic shelf labels (ESL) market are propelling considerable growth. Display technology advancements like OLED and e-ink improve energy efficiency and visibility. Real-time pricing and inventory adjustments are made possible by integration with cloud-based and Internet of Things platforms. Furthermore, connection is enhanced by developments in wireless communication, such as Bluetooth and NFC. These advancements make ESL a crucial instrument in contemporary retail management by allowing merchants to improve consumer experiences, cut expenses, and streamline processes.

Threat:

#### Security Concerns

Security concerns in the electronic shelf labels (ESL) market can hinder growth by increasing the risk of data breaches and cyberattacks. Vulnerabilities in the wireless

communication systems of ESL devices may expose sensitive pricing, inventory, and customer data. Additionally, the costs associated with implementing robust security measures and compliance with data protection regulations can deter businesses from adopting ESL technology, slowing its market expansion.

#### Covid-19 Impact:

The COVID-19 pandemic has had a mixed impact on the Electronic Shelf Labels (ESL) market. While the demand for contactless solutions increased due to health and safety concerns, disruptions in supply chains and manufacturing delays hindered market growth. Additionally, economic uncertainties led businesses to delay investments in ESL technology. However, the accelerated shift towards digital and automated retail operations post-pandemic may support long-term market growth.

The displays segment is expected to be the largest during the forecast period

The displays segment is expected to account for the largest market share during the forecast period, because of developments in display technologies like OLED and E-Ink. The whole consumer experience is improved by these displays' increased readability, low power consumption, and higher visibility in a range of lighting situations. The market for ESLs is expanding due in large part to the growing need for high-performance displays as retail organizations use ESLs more and more for inventory management and dynamic pricing.

The radio frequency (RF) segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the radio frequency (RF) segment is predicted to witness the highest growth rate as RF technology enhances operational efficiency by enabling dynamic pricing, inventory management, and real-time price changes. RF-based ESLs save labor expenses and improve customer satisfaction with their longer range and reduced power usage. Global use of RF-enabled ESLs is further fueled by the rising need for smart retail solutions and the trend toward automation in retail settings.

#### Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share because of the need for better inventory control, automation, and improved customer service. ESLs are being used by retailers to provide dynamic pricing

strategies, lower labor expenses, and expedite price adjustments. Additional factors driving market expansion include the emergence of e-commerce, improvements in wireless communication technology, and energy-efficient displays. Additionally, the region's adoption of ESL solutions is being fueled by the desire for sustainable practices and less paper use.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR owing to the need for cost-effective inventory management, improved customer experience, and successful retail operations. ESL system integration is made easier by wireless technology advancements like RFID and Wi-Fi. Market expansion is fueled by the automation of the retail industry as well as consumers' growing inclination for digital solutions. ESL adoption in the area is further aided by growing e-commerce activity and the demand for real-time pricing and product information.

Key players in the market

Some of the key players in Electronic Shelf Labels market include Advantech Co., Ltd., Altierre Corporation, Cest Co., Ltd., CLEARink Displays Inc., Diebold Nixdorf, Incorporated, Displaydata Limited, E Ink Holdings Inc., LG Innotek, M2COMM, Mimaki Engineering Co., Ltd., NCR Corporation, Opticon Sensors Europe B.V., Panasonic Corporation, Pricer AB, Prismview LLC, Samsung Electro-Mechanics Co., Ltd., SES-imagotag, SoluM Co., Ltd., Teraoka Seiko Co., Ltd. and Zhejiang Hanshow Technology Co., Ltd.

Key Developments:

In January 2025, Panasonic unveiled an innovative new energy efficient approach to heating, ventilation, and air conditioning (HVAC) that uses significantly less energy than conventional technologies.

In June 2024, Panasonic announced additions to its AV solution suite to power innovative and engaging visual experiences across industries.

In May 2024, Panasonic announced the LUMIX S9, the smallest and lightest full-frame mirrorless camera in the LUMIX S Series. Available in four colorways—Jet Black, Crimson Red, Dark Olive and Night Blue—the LUMIX S9 is a stylish companion for content creator's on-the-go and easily elevates social media content.

Products Covered:

LCD ESLs

Segmented E-Paper

Full-Graphic E-Paper

Other Products

Components Covered:

Displays

Batteries

Transceivers

Microprocessors

Other Components

Display Sizes Covered:

Less than 3 Inch

3 Inch to 7 Inch

7 Inch to 10 Inch

More than 10 Inch

Power Sources Covered:

Battery-Powered

Solar-Powered

Connectivity Technologies Covered:

Radio Frequency (RF)

Infrared (IR)

Near Field Communication (NFC)

End Users Covered:

Hypermarkets

Supermarkets

Non-Food Retail Stores

Specialty Stores

Other End Users

Regions Covered:

North America

US

Canada

Mexico

Europe

Germany

UK

Italy

France

Spain

Rest of Europe

Asia Pacific

Japan

China

India

Australia

New Zealand

South Korea

Rest of Asia Pacific

South America

Argentina

Brazil

Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2022, 2023, 2024, 2026, and 2030
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

#### Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

#### Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

## Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

## Contents

### **1 EXECUTIVE SUMMARY**

### **2 PREFACE**

- 2.1 Abstract
- 2.2 Stake Holders
- 2.3 Research Scope
- 2.4 Research Methodology
  - 2.4.1 Data Mining
  - 2.4.2 Data Analysis
  - 2.4.3 Data Validation
  - 2.4.4 Research Approach
- 2.5 Research Sources
  - 2.5.1 Primary Research Sources
  - 2.5.2 Secondary Research Sources
  - 2.5.3 Assumptions

### **3 MARKET TREND ANALYSIS**

- 3.1 Introduction
- 3.2 Drivers
- 3.3 Restraints
- 3.4 Opportunities
- 3.5 Threats
- 3.6 Product Analysis
- 3.7 Technology Analysis
- 3.8 End User Analysis
- 3.9 Emerging Markets
- 3.10 Impact of Covid-19

### **4 PORTERS FIVE FORCE ANALYSIS**

- 4.1 Bargaining power of suppliers
- 4.2 Bargaining power of buyers
- 4.3 Threat of substitutes
- 4.4 Threat of new entrants
- 4.5 Competitive rivalry

## **5 GLOBAL ELECTRONIC SHELF LABELS MARKET, BY PRODUCT**

- 5.1 Introduction
- 5.2 LCD ESLs
- 5.3 Segmented E-Paper
- 5.4 Full-Graphic E-Paper
- 5.5 Other Products

## **6 GLOBAL ELECTRONIC SHELF LABELS MARKET, BY COMPONENT**

- 6.1 Introduction
- 6.2 Displays
- 6.3 Batteries
- 6.4 Transceivers
- 6.5 Microprocessors
- 6.6 Other Components

## **7 GLOBAL ELECTRONIC SHELF LABELS MARKET, BY DISPLAY SIZE**

- 7.1 Introduction
- 7.2 Less than 3 Inch
- 7.3 3 Inch to 7 Inch
- 7.4 7 Inch to 10 Inch
- 7.5 More than 10 Inch

## **8 GLOBAL ELECTRONIC SHELF LABELS MARKET, BY POWER SOURCE**

- 8.1 Introduction
- 8.2 Battery-Powered
- 8.3 Solar-Powered

## **9 GLOBAL ELECTRONIC SHELF LABELS MARKET, BY CONNECTIVITY TECHNOLOGY**

- 9.1 Introduction
- 9.2 Radio Frequency (RF)
- 9.3 Infrared (IR)
- 9.4 Near Field Communication (NFC)

## **10 GLOBAL ELECTRONIC SHELF LABELS MARKET, BY END USER**

- 10.1 Introduction
- 10.2 Hypermarkets
- 10.3 Supermarkets
- 10.4 Non-Food Retail Stores
- 10.5 Specialty Stores
- 10.6 Other End Users

## **11 GLOBAL ELECTRONIC SHELF LABELS MARKET, BY GEOGRAPHY**

- 11.1 Introduction
- 11.2 North America
  - 11.2.1 US
  - 11.2.2 Canada
  - 11.2.3 Mexico
- 11.3 Europe
  - 11.3.1 Germany
  - 11.3.2 UK
  - 11.3.3 Italy
  - 11.3.4 France
  - 11.3.5 Spain
  - 11.3.6 Rest of Europe
- 11.4 Asia Pacific
  - 11.4.1 Japan
  - 11.4.2 China
  - 11.4.3 India
  - 11.4.4 Australia
  - 11.4.5 New Zealand
  - 11.4.6 South Korea
  - 11.4.7 Rest of Asia Pacific
- 11.5 South America
  - 11.5.1 Argentina
  - 11.5.2 Brazil
  - 11.5.3 Chile
  - 11.5.4 Rest of South America
- 11.6 Middle East & Africa
  - 11.6.1 Saudi Arabia

- 11.6.2 UAE
- 11.6.3 Qatar
- 11.6.4 South Africa
- 11.6.5 Rest of Middle East & Africa

## **12 KEY DEVELOPMENTS**

- 12.1 Agreements, Partnerships, Collaborations and Joint Ventures
- 12.2 Acquisitions & Mergers
- 12.3 New Product Launch
- 12.4 Expansions
- 12.5 Other Key Strategies

## **13 COMPANY PROFILING**

- 13.1 Advantech Co., Ltd.
- 13.2 Altierre Corporation
- 13.3 Cest Co., Ltd.
- 13.4 CLEARink Displays Inc.
- 13.5 Diebold Nixdorf, Incorporated
- 13.6 Displaydata Limited
- 13.7 E Ink Holdings Inc.
- 13.8 LG Innotek
- 13.9 M2COMM
- 13.10 Mimaki Engineering Co., Ltd.
- 13.11 NCR Corporation
- 13.12 Opticon Sensors Europe B.V.
- 13.13 Panasonic Corporation
- 13.14 Pricer AB
- 13.15 Prismview LLC
- 13.16 Samsung Electro-Mechanics Co., Ltd.
- 13.17 SES-imagotag
- 13.18 SoluM Co., Ltd.
- 13.19 Teraoka Seiko Co., Ltd.
- 13.20 Zhejiang Hanshow Technology Co., Ltd.

## List Of Tables

### LIST OF TABLES

Table 1 Global Electronic Shelf Labels Market Outlook, By Region (2022-2030) (\$MN)

Table 2 Global Electronic Shelf Labels Market Outlook, By Product (2022-2030) (\$MN)

Table 3 Global Electronic Shelf Labels Market Outlook, By LCD ESLs (2022-2030) (\$MN)

Table 4 Global Electronic Shelf Labels Market Outlook, By Segmented E-Paper (2022-2030) (\$MN)

Table 5 Global Electronic Shelf Labels Market Outlook, By Full-Graphic E-Paper (2022-2030) (\$MN)

Table 6 Global Electronic Shelf Labels Market Outlook, By Other Products (2022-2030) (\$MN)

Table 7 Global Electronic Shelf Labels Market Outlook, By Component (2022-2030) (\$MN)

Table 8 Global Electronic Shelf Labels Market Outlook, By Displays (2022-2030) (\$MN)

Table 9 Global Electronic Shelf Labels Market Outlook, By Batteries (2022-2030) (\$MN)

Table 10 Global Electronic Shelf Labels Market Outlook, By Transceivers (2022-2030) (\$MN)

Table 11 Global Electronic Shelf Labels Market Outlook, By Microprocessors (2022-2030) (\$MN)

Table 12 Global Electronic Shelf Labels Market Outlook, By Other Components (2022-2030) (\$MN)

Table 13 Global Electronic Shelf Labels Market Outlook, By Display Size (2022-2030) (\$MN)

Table 14 Global Electronic Shelf Labels Market Outlook, By Less than 3 Inch (2022-2030) (\$MN)

Table 15 Global Electronic Shelf Labels Market Outlook, By 3 Inch to 7 Inch (2022-2030) (\$MN)

Table 16 Global Electronic Shelf Labels Market Outlook, By 7 Inch to 10 Inch (2022-2030) (\$MN)

Table 17 Global Electronic Shelf Labels Market Outlook, By More than 10 Inch (2022-2030) (\$MN)

Table 18 Global Electronic Shelf Labels Market Outlook, By Power Source (2022-2030) (\$MN)

Table 19 Global Electronic Shelf Labels Market Outlook, By Battery-Powered (2022-2030) (\$MN)

Table 20 Global Electronic Shelf Labels Market Outlook, By Solar-Powered (2022-2030)

(\$MN)

Table 21 Global Electronic Shelf Labels Market Outlook, By Connectivity Technology (2022-2030) (\$MN)

Table 22 Global Electronic Shelf Labels Market Outlook, By Radio Frequency (RF) (2022-2030) (\$MN)

Table 23 Global Electronic Shelf Labels Market Outlook, By Infrared (IR) (2022-2030) (\$MN)

Table 24 Global Electronic Shelf Labels Market Outlook, By Near Field Communication (NFC) (2022-2030) (\$MN)

Table 25 Global Electronic Shelf Labels Market Outlook, By End User (2022-2030) (\$MN)

Table 26 Global Electronic Shelf Labels Market Outlook, By Hypermarkets (2022-2030) (\$MN)

Table 27 Global Electronic Shelf Labels Market Outlook, By Supermarkets (2022-2030) (\$MN)

Table 28 Global Electronic Shelf Labels Market Outlook, By Non-Food Retail Stores (2022-2030) (\$MN)

Table 29 Global Electronic Shelf Labels Market Outlook, By Specialty Stores (2022-2030) (\$MN)

Table 30 Global Electronic Shelf Labels Market Outlook, By Other End Users (2022-2030) (\$MN)

Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

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