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Global Battery Cell Intelligent Winding Machine Supply, Demand and Key Producers, 2026-2032

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Abstracts

The global Battery Cell Intelligent Winding Machine market size is expected to reach $ 3742 million by 2032, rising at a market growth of 17.8% CAGR during the forecast period (2026-2032).

The battery cell intelligent winding machine is a core piece of equipment in the manufacturing process of lithium-ion, sodium-ion, and other battery cells; it automatically winds the positive electrode sheet, negative electrode sheet, and separator into a cell core?or 'jelly roll'?according to preset parameters for tension, speed, alignment precision, and winding path. It is primarily utilized in the production of cylindrical cells, prismatic cells, and certain pouch cells. Compared to traditional winding equipment, intelligent cell winding machines typically integrate advanced functions such as automatic unwinding, web guiding, tension control, tab positioning, defect detection, machine vision, automatic roll changing, data acquisition, and process parameter traceability. These capabilities enhance the consistency of the cell core, mitigate the risks of short circuits and misalignment, and significantly boost the levels of automation, yield rates, and production capacity within battery manufacturing lines; thus, they serve as critical machinery in the intelligent manufacturing of power batteries, energy storage batteries, and consumer electronics batteries.

The upstream segment of the battery cell intelligent winding machine industry chain primarily comprises components such as servo motors, PLCs/motion controllers, tension control systems, CCD vision inspection systems, web guiding mechanisms, precision linear guides, bearings, pneumatic components, sensors, cutting dies, fixtures, sheet metal frames, and MES/data acquisition software. Among these, the core control systems, vision inspection systems, and precision transmission components present particularly high technological barriers to entry. The midstream segment consists of

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manufacturers of winding machines?including integrated sheet-making and winding machines?who are responsible for equipment design, assembly, commissioning, process adaptation, and complete line integration; their products primarily cover the winding processes for cylindrical, prismatic, and select pouch-type battery cells. The downstream segment consists mainly of manufacturers of power batteries, energy storage batteries, consumer batteries, and solid-state/semi-solid-state batteries, where these machines are deployed during the mid-stream cell manufacturing phase. According to the annual report of Yinghe Technology, its portfolio of automated lithium battery equipment encompasses core machinery such as coating machines, calendering machines, slitting machines, sheet-making machines, winding machines, and stacking machines; specifically, its winding machines are primarily utilized for the winding of prismatic or cylindrical lithium-ion battery cells. Similarly, Lead Intelligent integrates cell manufacturing, battery assembly, testing, module/PACK assembly, and MES into its comprehensive equipment solutions for complete lithium battery production lines. The gross profit margin for intelligent cell winding machines stands at approximately 31%.

In 2025, the average unit price for intelligent cell winding machines is projected to be $200 k with a projected sales volume of 5,765 units against a total production capacity of 8,200 units.

The battery cell intelligent winding machine constitutes a critical link within the mid-stream equipment segment of battery manufacturing; its core value lies in enhancing the consistency of the wound core and boosting production efficiency. As power batteries and energy storage batteries evolve toward higher capacities, higher discharge rates, and enhanced safety standards, the demands placed on cell winding?specifically regarding electrode alignment precision, separator tension stability, winding speed, and defect detection capabilities?are continuously escalating. While traditional winding machines primarily addressed the fundamental challenge of 'being able to wind,' intelligent winding machines emphasize 'high speed, precision, stability, and traceability'?factors that directly impact cell yield rates, safety, and manufacturing costs.

Industry competition is shifting from a focus on individual machines to a focus on whole-line integration and process synergy. Intelligent cell winding machines are no longer merely standalone devices; they must now operate in seamless coordination with laser die-cutting, electrode preparation, tape application, inspection, material handling, MES systems, and downstream assembly equipment. The competitive advantage of leading equipment manufacturers is demonstrated not only through superior mechanical

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structures and control precision but also through their deep understanding of diverse cell technology roadmaps, client-specific process parameters, and the complexities of large-scale mass production. Consequently, companies capable of delivering a comprehensive solution?encompassing 'winding machines + integrated electrode preparation and winding units + inspection systems + complete production lines'?are better positioned to secure orders from major battery manufacturers.

In the future, battery cell intelligent winding machines will evolve toward higher speeds, greater precision, digitalization, and enhanced flexibility. On one hand, products such as large cylindrical cells, prismatic energy storage cells, and high-energy-density power batteries will drive the technological upgrading of winding equipment. On the other hand, battery manufacturers' demands for cost reduction, efficiency gains, and yield improvement will drive the integration of advanced features into equipment?including AI-powered visual inspection, automatic alignment correction, closed-loop tension control, anomaly pre-warning systems, and process data traceability. Future industry growth will stem not only from newly added battery production capacity but also from the retrofitting of existing production lines, domestic substitution initiatives, capacity expansions at overseas battery plants, and the upgrading of novel battery manufacturing processes.

This report studies the global Battery Cell Intelligent Winding Machine production, demand, key manufacturers, and key regions.

This report is a detailed and comprehensive analysis of the world market for Battery Cell Intelligent Winding Machine and provides market size (US$ million) and Year-over-Year (YoY) Growth, considering 2025 as the base year. This report explores demand trends and competition, as well as details the characteristics of Battery Cell Intelligent Winding Machine that contribute to its increasing demand across many markets.

Highlights and key features of the study
Global Battery Cell Intelligent Winding Machine total production and demand, 2021-2032, (Units)
Global Battery Cell Intelligent Winding Machine total production value, 2021-2032, (USD Million)
Global Battery Cell Intelligent Winding Machine production by region & country, production, value, CAGR, 2021-2032, (USD Million) & (Units), (based on production site)
Global Battery Cell Intelligent Winding Machine consumption by region & country, CAGR, 2021-2032 & (Units)
U.S. VS China: Battery Cell Intelligent Winding Machine domestic production,

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consumption, key domestic manufacturers and share
Global Battery Cell Intelligent Winding Machine production by manufacturer, production, price, value and market share 2021-2026, (USD Million) & (Units)
Global Battery Cell Intelligent Winding Machine production by Type, production, value, CAGR, 2021-2032, (USD Million) & (Units)
Global Battery Cell Intelligent Winding Machine production by Application, production, value, CAGR, 2021-2032, (USD Million) & (Units)

This report profiles key players in the global Battery Cell Intelligent Winding Machine market based on the following parameters - company overview, production, value, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include Schuler, Digatron Systems, MSE Supplies, MTI Corporation, Wuxi Lead Intelligent Equipment, Yinghe Technology, Lyric Robot, GEESUN, Hymson Laser, KATOP Automation, etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.

Stakeholders would have ease in decision-making through various strategy matrices used in analyzing the World Battery Cell Intelligent Winding Machine market

Detailed Segmentation:

Each section contains quantitative market data including market by value (US$ Millions), volume (production, consumption) & (Units) and average price (K US$/Unit) by manufacturer, by Type, and by Application. Data is given for the years 2021-2032 by year with 2025 as the base year, 2026 as the estimate year, and 2027-2032 as the forecast year.

Global Battery Cell Intelligent Winding Machine Market, By Region:

United States

China

Europe

Japan

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South Korea

ASEAN

India

Rest of World

Global Battery Cell Intelligent Winding Machine Market, Segmentation by Type:

Cylindrical Winding Machine

Square Winding Machine

Global Battery Cell Intelligent Winding Machine Market, Segmentation by Number of Workstations:

Single-Station Winding Machine (1 Winding Station)

Dual-Station Winding Machine (2 Winding Stations)

Multi-Station Winding Machine (?3 Winding Stations)

Global Battery Cell Intelligent Winding Machine Market, Segmentation by Degree of Automation:

Semi-Automatic Winding Machine

Fully Automatic Winding Machine

Intelligent Winding Machine

Global Battery Cell Intelligent Winding Machine Market, Segmentation by Application:

Consumer Electronics

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New Energy Vehicles

Others

Companies Profiled:

Schuler

Digatron Systems

MSE Supplies

MTI Corporation

Wuxi Lead Intelligent Equipment

Yinghe Technology

Lyric Robot

GEESUN

Hymson Laser

KATOP Automation

TOB New Energy

WinAck Battery

CKD

Kaido Manufacturing

Hohsen

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Key Questions Answered:

1. How big is the global Battery Cell Intelligent Winding Machine market?
2. What is the demand of the global Battery Cell Intelligent Winding Machine market?
3. What is the year over year growth of the global Battery Cell Intelligent Winding Machine market?
4. What is the production and production value of the global Battery Cell Intelligent Winding Machine market?
5. Who are the key producers in the global Battery Cell Intelligent Winding Machine market?
6. What are the growth factors driving the market demand?

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