Asia-Pacific Solid-State Battery Market Forecast 2026-2034

Market Report | 2026-01-19 | 184 pages | Inkwood Research

AVAILABLE LICENSES:

- Single User Price $1600.00
- Global Site License $2200.00

Report description:

KEY FINDINGS
The Asia-Pacific solid-state battery market size is valued at $975.03 million as of 2026 and is expected to reach $13123.50 million by 2034, progressing with a CAGR of 38.40% during the forecast years, 2026-2034.
MARKET INSIGHTS
Asia-Pacific's solid-state battery market continues to dominate global manufacturing capacity through aggressive investments by Japan and South Korea. The region's market growth is driven by robust demand for electric vehicles and portable electronics. Moreover, consumers increasingly seek advanced energy storage solutions offering higher energy density and improved safety characteristics. Strong government support for renewable energy initiatives and technological advancements in battery manufacturing fosters innovation across the region.
Furthermore, countries such as Japan and South Korea are leading in research and development, attracting substantial investments that propel the market forward. Additionally, strategic partnerships between automakers and battery startups are shortening technology commercialization cycles significantly. In 2024, solid-state batteries moved closer to commercial reality with new large prototypes and manufacturing investments from Samsung SDI, Toyota, NIO, Honda, and others.
Furthermore, the creation of government-led initiatives accelerates solid-state battery development throughout the Asia-Pacific nations. China established CASIP (China All-Solid-State Battery Collaborative Innovation Platform), bringing together industry leaders like CATL, BYD, and major automakers. Consequently, the region's integrated approach combining technological expertise, government backing, and manufacturing scale positions Asia-Pacific as the undisputed leader in solid-state battery commercialization.
REGIONAL ANALYSIS
The Asia-Pacific solid-state battery market growth assessment includes the analysis of China, Japan, India, South Korea, Indonesia, Vietnam, Thailand, Australia & New Zealand, and Rest of Asia-Pacific.
China dominates the global solid-state battery landscape through comprehensive government support and industrial coordination. The Chinese government invested over $830 million in 2024 into a government-led program to accelerate solid-state battery development. Six companies, including CATL, BYD, and WeLion New Energy Technology, were selected to receive state funding for advancing next-generation battery technologies. CATL, the world's largest battery manufacturer, entered trial production of 20Ah solid-state battery samples in late 2024.
According to reports, CATL's solution achieves an energy density of up to 500 Wh/kg for lithium ternary batteries, representing a

40% improvement over current batteries. The company announced plans for small-volume production of all-solid-state batteries by 2027, marking the first public mass-production timeline. Moreover, CATL dominated the global EV battery market with a 37.9% share through 2024, while BYD ranked second with 17.2% market share. China's CASIP alliance pools academia and industry leaders to build a solid-state EV battery supply chain.

The goal centers on developing next-generation EV batteries that will compete globally against rivals in Japan and Korea. Additionally, prototype vehicle testing is expected to be completed by 2026, with 1,000 vehicles planned for road deployment by 2027. China controls more than 70% of global lithium processing capacity, providing strategic supply chain advantages for solid-state battery production. Consequently, China's coordinated government-industry approach accelerates commercialization timelines ahead of international competitors.

Japan leads global solid-state battery innovation through decades of sustained research and strategic corporate partnerships. Toyota Motor Corporation announced in September 2024 that the Japanese Ministry of Economy, Trade, and Industry certified its development and production plans for all-solid-state batteries. The government certification validates Toyota's plans to begin solid-state battery production by 2026 under Japan's "Supply Assurance Plan for Batteries."

Toyota partnered with Sumitomo Metal Mining to mass-produce cathode materials for all-solid-state batteries, with production expected to begin in Japan's 2028 fiscal year. Toyota aims for the market launch of battery electric vehicles with all-solid-state batteries in 2027-2028. According to industry reports, Toyota's sulfide-based solid-state batteries achieve an energy density of 450-500 Wh/kg, enabling a 1,200-km driving range with 10-minute fast charging. The company plans to build a solid-state battery factory with 10 GWh annual production capacity in Japan by 2026.

Moreover, several Japanese companies are investing roughly $7 billion in local battery production, supported by METI approval for domestic manufacturing. Toyota also collaborates with Idemitsu Kosan to develop lithium sulfide, a key raw material for solid-state batteries. This collaboration aligns with Japan's broader strategy to establish a domestic EV battery supply chain and reduce dependence on China and South Korea. Consequently, Japan's combination of automotive excellence, materials expertise, and government support positions it as a solid-state battery innovation powerhouse.

SEGMENTATION ANALYSIS

The Asia-Pacific solid-state battery market is segmented into type, battery capacity, and application. The application segment is further categorized into consumer electronics, electric vehicles, energy harvesting, medical devices, and other applications.

The consumer electronics application segment captures the largest share of the Asia-Pacific's solid-state battery market. This segment's expansion is driven by miniaturization demands in wearable devices. Businesses are innovating to develop advanced power solutions that meet consumer electronics requirements for compact and robust systems. In June 2024, TDK reached a major milestone in solid-state battery materials by developing batteries with 1,000 Wh/L capacity, outperforming existing batteries by approximately 100 times.

This breakthrough advancement enables the development of lightweight batteries that extend operational time for smartwatches and wireless earbuds significantly. Moreover, solid-state batteries provide enhanced safety features and extended battery duration for small consumer devices. The Asia-Pacific region dominates global consumer electronics manufacturing, with China, Japan, and South Korea leading production volumes.

Consequently, proximity to manufacturing facilities accelerates solid-state battery integration into next-generation consumer products. Smartphones, tablets, laptops, and IoT devices increasingly demand higher energy density in smaller form factors. Solid-state technology addresses these requirements by eliminating bulky liquid electrolyte components. Additionally, the segment benefits from shorter development cycles compared to automotive applications, enabling faster commercialization. Asian consumer electronics giants like Samsung, Sony, and Panasonic actively invest in solid-state battery research for portable devices. Furthermore, the region's established supply chains for semiconductor and display manufacturing facilitate solid-state battery production infrastructure development. Consequently, the consumer electronics segment serves as the primary revenue driver for Asia-Pacific's solid-state battery market expansion.

COMPETITIVE INSIGHTS

Some of the top players operating in the Asia-Pacific solid-state battery market include Toyota Industries Corporation, Panasonic Corporation, Hitachi Zosen Corporation, Dyson, etc.

Panasonic Corporation operates as a leading global electronics manufacturer headquartered in Osaka, Japan. The company

specializes in consumer electronics, automotive systems, industrial solutions, and energy storage technologies across multiple sectors. Panasonic has established a comprehensive battery business spanning lithium-ion production, battery management systems, and next-generation solid-state research. The company collaborates with Toyota through Prime Planet Energy & Solutions, focusing on sulfide-based solid electrolytes for improved ion transfer in solid-state batteries.
Panasonic plans EV production for 2027, with industrial applications like drones and factory robots following by 2029. The partnership targets enhanced energy density and durability while leveraging Panasonic's extensive lithium-ion expertise for scalable manufacturing processes. Panasonic's phased approach prioritizes industrial applications before expanding to automotive segments, ensuring smooth commercialization pathways.
The company employs advanced materials science to develop high-performance solid electrolytes that maintain stability across temperature ranges. Additionally, Panasonic operates multiple research facilities throughout Japan dedicated to solid-state battery technology advancement. Through its global manufacturing network and Japanese engineering capabilities, Panasonic positions itself strategically in Asia-Pacific's transition toward next-generation energy storage solutions.
COMPANY PROFILES
1. BRIGHTVOLT INC
2. CYMBET CORPORATION
3. DYSON
4. EXCELLATRON SOLID STATE LLC
5. FRONT EDGE TECHNOLOGY INC
6. HITACHI ZOSEN CORPORATION
7. IMEC
8. INFINITE POWER SOLUTIONS INC
9. PANASONIC CORPORATION
10. PLANAR ENERGY DEVICES INC
11. PRIETO BATTERY INC
12. ROBERT BOSCH
13. SOLID POWER INC
14. STMICROELECTRONICS NV
15. TOYOTA INDUSTRIES CORPORATION

Table of Contents:

TABLE OF CONTENTS
1. RESEARCH SCOPE & METHODOLOGY
1.1. STUDY OBJECTIVES
1.2. METHODOLOGY
1.3. ASSUMPTIONS & LIMITATIONS
2. EXECUTIVE SUMMARY
2.1. MARKET SIZE & FORECAST
2.2. MARKET OVERVIEW
2.3. SCOPE OF STUDY
2.4. CRISIS SCENARIO ANALYSIS
2.5. MAJOR MARKET FINDINGS
2.5.1. SOLID-STATE BATTERY DEMAND IS SURGING AS OEMS ACCELERATE NEXT-GEN EV PLATFORM DEVELOPMENT
2.5.2. HIGH-ENERGY-DENSITY PROTOTYPES ARE MOVING FROM LAB SCALE TO PILOT LINES, DRIVING COMMERCIAL READINESS
2.5.3. ASIA-PACIFIC CONTINUES TO DOMINATE MANUFACTURING CAPACITY THROUGH AGGRESSIVE INVESTMENTS BY JAPAN AND SOUTH KOREA
2.5.4. STRATEGIC PARTNERSHIPS BETWEEN AUTOMAKERS AND BATTERY STARTUPS ARE SHORTENING TECHNOLOGY

COMMERCIALIZATION CYCLES
3. MARKET DYNAMICS
3.1. KEY DRIVERS
3.1.1. RISING NEED FOR SAFER BATTERIES WITH SUPERIOR THERMAL STABILITY
3.1.2. INCREASING EV ADOPTION REQUIRING LONGER RANGE AND FASTER CHARGING
3.1.3. GOVERNMENT FUNDED PROGRAMS ACCELERATING SOLID ELECTROLYTE R&D
3.1.4. EXPANDING APPLICATIONS ACROSS WEARABLES, DRONES, AND GRID STORAGE
3.2. KEY RESTRAINTS
3.2.1. HIGH MANUFACTURING COSTS LIMITING LARGE-SCALE COMMERCIALIZATION
3.2.2. CHALLENGES IN SCALING PRODUCTION OF DENDRITE-RESISTANT ELECTROLYTES
3.2.3. SUPPLY CHAIN BOTTLENECKS IN RARE MATERIALS SUCH AS LITHIUM METAL FOILS
3.2.4. UNCERTAIN LONG-TERM DURABILITY PERFORMANCE IN REAL-WORLD EV CONDITIONS
4. KEY ANALYTICS
4.1. KEY MARKET TRENDS
4.1.1. RAPID RISE OF OXIDE AND SULFIDE ELECTROLYTE INNOVATIONS IMPROVING IONIC CONDUCTIVITY
4.1.2. AUTOMAKERS ARE SHIFTING TOWARD VERTICAL INTEGRATION OF SOLID STATE R&D AND MANUFACTURING
4.1.3. INCREASING INVESTMENT FLOWS INTO PILOT SCALE GIGA-FACILITIES
4.1.4. EMERGENCE OF HYBRID SEMI-SOLID BATTERIES AS A TRANSITIONAL TECHNOLOGY BRIDGING CURRENT LI-ION AND FULL SOLID STATE
4.2. PORTER'S FIVE FORCES ANALYSIS
4.2.1. BUYERS POWER
4.2.2. SUPPLIERS POWER
4.2.3. SUBSTITUTION
4.2.4. NEW ENTRANTS
4.2.5. INDUSTRY RIVALRY
4.3. GROWTH PROSPECT MAPPING
4.3.1. GROWTH PROSPECT MAPPING FOR ASIA-PACIFIC
4.4. MARKET MATURITY ANALYSIS
4.5. MARKET CONCENTRATION ANALYSIS
4.6. VALUE CHAIN ANALYSIS
4.6.1. RAW MATERIALS
4.6.2. ELECTROLYTE FORMULATION
4.6.3. ANODE CATHODE PROCESSING
4.6.4. CELL MANUFACTURING
4.6.5. PACK INTEGRATION
4.6.6. OEM APPLICATIONS
4.7. KEY BUYING CRITERIA
4.7.1. ENERGY DENSITY
4.7.2. SAFETY PERFORMANCE
4.7.3. COST PER KWH
4.7.4. CYCLE LIFE
4.8. REGULATORY FRAMEWORK
5. SOLID-STATE BATTERY MARKET BY TYPE
5.1. SINGLE LAYER
5.1.1. MARKET FORECAST FIGURE
5.1.2. SEGMENT ANALYSIS
5.2. MULTI-LAYER

5.2.1. MARKET FORECAST FIGURE
5.2.2. SEGMENT ANALYSIS
6. SOLID-STATE BATTERY MARKET BY BATTERY CAPACITY
6.1. LESS THAN 20 MAH
6.1.1. MARKET FORECAST FIGURE
6.1.2. SEGMENT ANALYSIS
6.2. BETWEEN 20 MAH & 500 MAH
6.2.1. MARKET FORECAST FIGURE
6.2.2. SEGMENT ANALYSIS
6.3. 500 MAH ABOVE
6.3.1. MARKET FORECAST FIGURE
6.3.2. SEGMENT ANALYSIS
7. SOLID-STATE BATTERY MARKET BY APPLICATION
7.1. CONSUMER ELECTRONICS
7.1.1. MARKET FORECAST FIGURE
7.1.2. SEGMENT ANALYSIS
7.2. ELECTRIC VEHICLES
7.2.1. MARKET FORECAST FIGURE
7.2.2. SEGMENT ANALYSIS
7.3. ENERGY HARVESTING
7.3.1. MARKET FORECAST FIGURE
7.3.2. SEGMENT ANALYSIS
7.4. MEDICAL DEVICES
7.4.1. MARKET FORECAST FIGURE
7.4.2. SEGMENT ANALYSIS
7.5. OTHER APPLICATIONS
7.5.1. MARKET FORECAST FIGURE
7.5.2. SEGMENT ANALYSIS
8. GEOGRAPHICAL ANALYSIS
8.1. ASIA-PACIFIC
8.1.1. MARKET SIZE & ESTIMATES
8.1.2. ASIA-PACIFIC MARKET DRIVERS
8.1.3. ASIA-PACIFIC MARKET CHALLENGES
8.1.4. KEY PLAYERS IN ASIA-PACIFIC SOLID-STATE BATTERY MARKET
8.1.5. COUNTRY ANALYSIS
8.1.5.1. CHINA
8.1.5.1.1. CHINA MARKET SIZE & OPPORTUNITIES
8.1.5.2. INDIA
8.1.5.2.1. INDIA MARKET SIZE & OPPORTUNITIES
8.1.5.3. JAPAN
8.1.5.3.1. JAPAN MARKET SIZE & OPPORTUNITIES
8.1.5.4. AUSTRALIA & NEW ZEALAND
8.1.5.4.1. AUSTRALIA & NEW ZEALAND MARKET SIZE & OPPORTUNITIES
8.1.5.5. SOUTH KOREA
8.1.5.5.1. SOUTH KOREA MARKET SIZE & OPPORTUNITIES
8.1.5.6. THAILAND
8.1.5.6.1. THAILAND MARKET SIZE & OPPORTUNITIES

8.1.5.7. INDONESIA
8.1.5.7.1. INDONESIA MARKET SIZE & OPPORTUNITIES
8.1.5.8. VIETNAM
8.1.5.8.1. VIETNAM MARKET SIZE & OPPORTUNITIES
8.1.5.9. REST OF ASIA-PACIFIC
8.1.5.9.1. REST OF ASIA-PACIFIC MARKET SIZE & OPPORTUNITIES
9. COMPETITIVE LANDSCAPE
9.1. KEY STRATEGIC DEVELOPMENTS
9.1.1. MERGERS & ACQUISITIONS
9.1.2. PRODUCT LAUNCHES & DEVELOPMENTS
9.1.3. PARTNERSHIPS & AGREEMENTS
9.1.4. BUSINESS EXPANSIONS & DIVESTITURES
9.2. COMPANY PROFILES
9.2.1. BRIGHTVOLT INCORPORATION
9.2.1.1. COMPANY OVERVIEW
9.2.1.2. PRODUCTS
9.2.1.3. STRENGTHS & CHALLENGES
9.2.2. CYMBET CORPORATION
9.2.2.1. COMPANY OVERVIEW
9.2.2.2. PRODUCTS
9.2.2.3. STRENGTHS & CHALLENGES
9.2.3. DYSON
9.2.3.1. COMPANY OVERVIEW
9.2.3.2. PRODUCTS
9.2.3.3. STRENGTHS & CHALLENGES
9.2.4. EXCELLATRON SOLID STATE LLC
9.2.4.1. COMPANY OVERVIEW
9.2.4.2. PRODUCTS
9.2.4.3. STRENGTHS & CHALLENGES
9.2.5. FRONT EDGE TECHNOLOGY INC
9.2.5.1. COMPANY OVERVIEW
9.2.5.2. PRODUCTS
9.2.5.3. STRENGTHS & CHALLENGES
9.2.6. HITACHI ZOSEN CORPORATION
9.2.6.1. COMPANY OVERVIEW
9.2.6.2. PRODUCTS
9.2.6.3. STRENGTHS & CHALLENGES
9.2.7. IMEC
9.2.7.1. COMPANY OVERVIEW
9.2.7.2. PRODUCTS
9.2.7.3. STRENGTHS & CHALLENGES
9.2.8. INFINITE POWER SOLUTIONS INC (ACQUIRED BY APPLE INC)
9.2.8.1. COMPANY OVERVIEW
9.2.8.2. PRODUCTS
9.2.8.3. STRENGTHS & CHALLENGES
9.2.9. PANASONIC CORPORATION
9.2.9.1. COMPANY OVERVIEW

9.2.9.2. PRODUCTS
9.2.9.3. STRENGTHS & CHALLENGES
9.2.10. PLANAR ENERGY DEVICES INC
9.2.10.1. COMPANY OVERVIEW
9.2.10.2. PRODUCTS
9.2.10.3. STRENGTHS & CHALLENGES
9.2.11. PRIETO BATTERY INC
9.2.11.1. COMPANY OVERVIEW
9.2.11.2. PRODUCTS
9.2.11.3. STRENGTHS & CHALLENGES
9.2.12. ROBERT BOSCH
9.2.12.1. COMPANY OVERVIEW
9.2.12.2. PRODUCTS
9.2.12.3. STRENGTHS & CHALLENGES
9.2.13. SOLID POWER INC
9.2.13.1. COMPANY OVERVIEW
9.2.13.2. PRODUCTS
9.2.13.3. STRENGTHS & CHALLENGES
9.2.14. STMICROELECTRONICS NV
9.2.14.1. COMPANY OVERVIEW
9.2.14.2. PRODUCTS
9.2.14.3. STRENGTHS & CHALLENGES
9.2.15. TOYOTA INDUSTRIES CORPORATION
9.2.15.1. COMPANY OVERVIEW
9.2.15.2. PRODUCTS
9.2.15.3. STRENGTHS & CHALLENGES

LIST OF TABLES

TABLE 1: MARKET SNAPSHOT - SOLID-STATE BATTERY
TABLE 2: MARKET BY TYPE, BY REGION, HISTORICAL YEARS, 2022-2024 (IN $ MILLION)
TABLE 3: MARKET BY TYPE, BY REGION, FORECAST YEARS, 2026-2034 (IN $ MILLION)
TABLE 4: MARKET BY BATTERY CAPACITY, BY REGION, HISTORICAL YEARS, 2022-2024 (IN $ MILLION)
TABLE 5: MARKET BY BATTERY CAPACITY, BY REGION, FORECAST YEARS, 2026-2034 (IN $ MILLION)
TABLE 6: MARKET BY APPLICATION, BY REGION, HISTORICAL YEARS, 2022-2024 (IN $ MILLION)
TABLE 7: MARKET BY APPLICATION, BY REGION, FORECAST YEARS, 2026-2034 (IN $ MILLION)
TABLE 8: ASIA-PACIFIC MARKET, COUNTRY ANALYSIS, HISTORICAL YEARS, 2022-2024 (IN $ MILLION)
TABLE 9: ASIA-PACIFIC MARKET, COUNTRY ANALYSIS, FORECAST YEARS, 2026-2034 (IN $ MILLION)
TABLE 10: KEY PLAYERS OPERATING IN THE ASIA-PACIFIC MARKET
TABLE 11: LIST OF MERGERS & ACQUISITIONS
TABLE 12: LIST OF PRODUCT LAUNCHES & DEVELOPMENTS
TABLE 13: LIST OF PARTNERSHIPS & AGREEMENTS
TABLE 14: LIST OF BUSINESS EXPANSIONS & DIVESTITURES

LIST OF FIGURES

FIGURE 1: KEY MARKET TRENDS
FIGURE 2: PORTER'S FIVE FORCES ANALYSIS
FIGURE 3: GROWTH PROSPECT MAPPING FOR ASIA-PACIFIC
FIGURE 4: MARKET MATURITY ANALYSIS

FIGURE 5: MARKET CONCENTRATION ANALYSIS
FIGURE 6: VALUE CHAIN ANALYSIS
FIGURE 7: KEY BUYING CRITERIA
FIGURE 8: SEGMENT GROWTH POTENTIAL, BY TYPE, IN 2025
FIGURE 9: SINGLE LAYER MARKET SIZE, 2026-2034 (IN $ MILLION)
FIGURE 10: MULTI-LAYER MARKET SIZE, 2026-2034 (IN $ MILLION)
FIGURE 11: SEGMENT GROWTH POTENTIAL, BY BATTERY CAPACITY, IN 2025
FIGURE 12: LESS THAN 20 MAH MARKET SIZE, 2026-2034 (IN $ MILLION)
FIGURE 13: BETWEEN 20 MAH & 500 MAH MARKET SIZE, 2026-2034 (IN $ MILLION)
FIGURE 14: 500 MAH ABOVE MARKET SIZE, 2026-2034 (IN $ MILLION)
FIGURE 15: SEGMENT GROWTH POTENTIAL, BY APPLICATION, IN 2025
FIGURE 16: CONSUMER ELECTRONICS MARKET SIZE, 2026-2034 (IN $ MILLION)
FIGURE 17: ELECTRIC VEHICLES MARKET SIZE, 2026-2034 (IN $ MILLION)
FIGURE 18: ENERGY HARVESTING MARKET SIZE, 2026-2034 (IN $ MILLION)
FIGURE 19: MEDICAL DEVICES MARKET SIZE, 2026-2034 (IN $ MILLION)
FIGURE 20: OTHER APPLICATIONS MARKET SIZE, 2026-2034 (IN $ MILLION)
FIGURE 21: ASIA-PACIFIC SOLID-STATE BATTERY MARKET, COUNTRY OUTLOOK, 2025 & 2034 (IN %)
FIGURE 22: CHINA MARKET SIZE, 2026-2034 (IN $ MILLION)
FIGURE 23: INDIA MARKET SIZE, 2026-2034 (IN $ MILLION)
FIGURE 24: JAPAN MARKET SIZE, 2026-2034 (IN $ MILLION)
FIGURE 25: AUSTRALIA & NEW ZEALAND MARKET SIZE, 2026-2034 (IN $ MILLION)
FIGURE 26: SOUTH KOREA MARKET SIZE, 2026-2034 (IN $ MILLION)
FIGURE 27: THAILAND MARKET SIZE, 2026-2034 (IN $ MILLION)
FIGURE 28: INDONESIA MARKET SIZE, 2026-2034 (IN $ MILLION)
FIGURE 29: VIETNAM MARKET SIZE, 2026-2034 (IN $ MILLION)
FIGURE 30: REST OF ASIA-PACIFIC MARKET SIZE, 2026-2034 (IN $ MILLION)

SCOTTS INTERNATIONAL

Asia-Pacific Solid-State Battery Market Forecast 2026-2034

Market Report | 2026-01-19 | 184 pages | Inkwood Research

To place an Order with Scotts International:

- - Print this form
- - Complete the relevant blank fields and sign
- - Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Single User Price	$1600.00
	Global Site License	$2200.00
	VAT	
	Total	

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*		Phone*	
First Name*		Last Name*	
Job title*			
Company Name*		EU Vat / Tax ID / NIP number*	
Address*		City*	
Zip Code*		Country*	
		Date	2026-02-06
		Signature	