North America Solid-State Battery Market Forecast 2026-2034

Market Report | 2026-01-19 | 181 pages | Inkwood Research

AVAILABLE LICENSES:

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

Report description:

KEY FINDINGS
The North America solid-state battery market size is valued at $430.84 million as of 2026 and is expected to reach $5802.98 million by 2034, progressing with a CAGR of 38.41% during the forecast years, 2026-2034.
MARKET INSIGHTS
North America's solid-state battery market is experiencing robust expansion driven by several converging factors. Advanced technological infrastructure across the region supports rapid innovation in next-generation battery development. Moreover, increasing electric vehicle adoption is creating unprecedented demand for safer, higher-density energy storage solutions. Additionally, strategic partnerships between automakers and battery startups are shortening technology commercialization cycles significantly. Companies like QuantumScape and Solid Power are attracting major investments from Volkswagen and BMW, respectively. Furthermore, government-funded research programs are accelerating solid electrolyte R&D across multiple institutions. The region benefits from strong intellectual property protection and robust capital markets that facilitate startup funding.
REGIONAL ANALYSIS
The North America solid-state battery market growth assessment includes the analysis of the United States and Canada.
The U.S. solid-state battery market dominates the North American market and held a significant share in 2025, predominantly owing to government policies promoting clean energy. The U.S. Department of Energy has prioritized research into next-generation batteries, including solid-state solutions, to enhance energy storage capabilities. QuantumScape announced a groundbreaking agreement with Volkswagen's PowerCo division in July 2024 for high-volume production of lithium-metal solid-state batteries.
The initial goal targets 40 gigawatt-hours' worth of batteries per year with an option to expand to 80 gigawatt-hours, enough for approximately one million EVs annually. This landmark deal positions PowerCo to manufacture batteries at a gigawatt-scale using QuantumScape's proprietary technology platform. Heavy investments in research and development by companies such as QuantumScape and Solid Power are propelling market expansion.
QuantumScape operates facilities in San Jose, California, where it has been conducting research since 2014. In October 2024, the company began low-volume production of its B-sample QSE-5 cells with energy density exceeding 800 Wh/L and fast charging capability from 10% to 80% in under 15 minutes. These cells are now being shipped to automotive partners for EV implementation testing. Meanwhile, U.S. investments in batteries and critical minerals refining have grown at least threefold over the past two

years.

Battery manufacturing investments totaled $40.9 billion from Q2 2023 through Q2 2024, largely thanks to manufacturing and investment tax credits in the Inflation Reduction Act. However, challenges remain as the vast majority of current U.S. incentives do not specifically target next-generation batteries over existing technologies. Despite this, the expanding electric vehicle market continues to drive demand for safer and more efficient battery solutions across the United States.

Canada is contributing meaningfully to regional solid-state battery development through initiatives focused on clean energy and battery technology innovation. The country's commitment to environmental sustainability aligns with solid-state battery advantages in safety and performance. Canadian research institutions are collaborating with industry partners to advance solid electrolyte materials and manufacturing processes.

Furthermore, government support for renewable energy initiatives creates favorable conditions for solid-state battery commercialization. The nation's robust mining sector provides access to critical battery materials, strengthening supply chain resilience. Consequently, Canada's strategic position in North America's battery ecosystem continues to grow steadily.

SEGMENTATION ANALYSIS

The North America solid-state battery market is segmented into type, battery capacity, and application. The type segment is further categorized into single-layer and multi-layer.

The single-layer segment represents a foundational architecture in North America's solid-state battery market. Single-layer solid-state batteries feature simplified construction with one electrolyte layer positioned between electrodes, minimizing manufacturing complexity significantly. This streamlined design reduces production costs compared to multi-layer alternatives while facilitating easier quality control during manufacturing processes.

Moreover, the simplified architecture enables faster production cycles and lower capital expenditure requirements for manufacturers entering the solid-state battery market. Single-layer configurations particularly appeal to applications requiring moderate energy density without extreme performance demands. Consumer electronics manufacturers favor single-layer designs for wearable devices, medical implants, and IoT sensors, where compact form factors are essential.

The medical device sector demonstrates especially strong demand, as single-layer solid-state batteries provide reliable, long-lasting power for implantable devices like pacemakers and neurostimulators. Additionally, their inherent safety advantages prove critical in medical applications where battery failure could endanger lives. The compact form factor enables the miniaturization of medical equipment, improving patient comfort significantly.

Furthermore, regulatory approvals for medical devices incorporating solid-state batteries are progressing steadily across North America. Single-layer batteries also demonstrate excellent performance stability over extended operational periods, making them ideal for applications requiring consistent power delivery. Consequently, this segment continues gaining traction in specialized applications where simplified manufacturing and reliable performance outweigh maximum energy density requirements.

COMPETITIVE INSIGHTS

Some of the top players operating in the North America solid-state battery market include QuantumScape Battery Inc, Solid Power Inc, Panasonic Corporation, Cymbet Corporation, etc.

QuantumScape Battery Inc operates as a leading solid-state battery developer headquartered in San Jose, California. The company specializes in developing anode-free, lithium-metal solid-state battery technology for electric vehicles and other applications. QuantumScape's proprietary ceramic separator technology enables higher energy density, faster charging, and improved safety compared to conventional lithium-ion batteries.

The company's flagship product, the QSE-5 cell, delivers over 844 Wh/L energy density with 12.2-minute fast charging from 10% to 80% state of charge. QuantumScape operates through a technology licensing business model, partnering with major automotive manufacturers like Volkswagen's PowerCo division.

In December 2024, the company completed installation of its proprietary "Cobra" separator production process, enabling gigawatt-hour scale manufacturing capabilities. This breakthrough in ceramics manufacturing provides a 25-fold improvement over previous production methods. QuantumScape has raised over $2 billion in investment to date, with Volkswagen holding a 17% stake in the company. The firm's integrated approach combines cutting-edge materials science with scalable manufacturing processes to commercialize solid-state batteries before the end of this decade.

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:

LIST OF TABLES

LIST OF FIGURES

SCOTTS INTERNATIONAL

North America Solid-State Battery Market Forecast 2026-2034

Market Report | 2026-01-19 | 181 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	2026-02-08
		Signature	