

Nanowire Battery Market by Material Type (Silicon, Germanium, Transition Metal Oxides, Gold), Industry (Consumer Electronics, Automotive, Aviation, Energy, Medical Devices), and Region (North America, Europe, APAC, RoW) – Global Forecast to 2026

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Abstracts

“Nanowire battery market to exhibit significant growth during 2021–2026”

The nanowire battery market is estimated to grow from USD 53 million in 2021 to USD 243 million by 2026, at a CAGR of 35.7%. The key factors driving the growth of the market include rising demand for batteries with high charge retention capacity, increasing expenditure on R&D activities by automotive companies, and growing consumer electronics industry. However, the high volume change of silicon nanowires during charge and discharge cycles is the key restraining factor for market growth.

“Silicon-based nanowire battery market to witness high growth potential during the forecast period”

Nanowire battery market for silicon is expected to grow at the highest CAGR during the forecast period. Silicon has emerged as the most promising anode material owing to its high charge retention capacity, low discharge capacity, and low cost. Silicon enables fast charging and lasts longer than lithium-ion batteries. Need for a longer battery lifetime and faster recharging time are the growing trends in the existing battery ecosystem. Moreover, growing electric mobility and miniaturization of consumer electronics has created an urgent requirement for advanced energy storage for batteries.

“Nanowire battery market in medical devices industry to grow at the highest CAGR

during the forecast period“

The nanowire battery market in the medical devices industry is expected to grow at the highest CAGR during the forecast period. Nowadays, innovations are taking place in the healthcare industry. Advanced battery-operated medical devices, such as pacemakers and hearing aids, are being designed to improve the overall health and well-being of their users. However, these implantable devices use lithium-ion batteries as power sources, which present a considerable number of safety issues to the patients. Nanowire batteries are lighter, safer, and have more energy density, and are expected to replace lithium-ion batteries in implantable devices in the coming years.

“North America to be the largest market for nanowire battery during the forecast period”

North America is expected to lead the nanowire battery market from 2021 to 2026. The high adoption rate of EVs in the US, increasing emphasis on power generation from renewable energy sources, and the presence of a favorable startup ecosystem are key factors driving the growth of the nanowire battery market in North America. In April 2019, Sila Nanotechnologies (US), a leading nanowire battery manufacturing startup, raised venture funding of USD 170 million. The US is one of the most attractive markets for nanowire batteries, one of the key reasons being the increasing demand for electric vehicles (EVs) in the country. The high adoption rate of EVs in the US is expected to fuel the demand for nanowire batteries in the coming 4-5 years. In 2018, the country witnessed a sharp rise of 81% in the sales of EVs compared with the previous year.

Profile break-up of primary participants for the report is given below:

By Company Type – Tier 1 = 40%, Tier 2 = 35%, and Tier 3 = 25%

By Designation – C Level = 48%, Director Level = 33%, and Manager Level = 19%

By Region – North America = 35%, Europe = 18%, APAC = 40%, and RoW = 7%

The key players in the market include Amprius (US), Sila Nanotechnologies (US), OneD Material (US), Nexeon (UK), NEI Corporation (US), XG Sciences (US), LG Chem (South Korea), Panasonic (Japan), Samsung SDI (South Korea), Enevate (US), ACS Materials (US), Novarials Corporation (US), Boston Power (US), Lithium Werks

(Netherlands), and Targray (Canada).

The global nanowire battery market is segmented into material type, industry, and geography. The market based on material type is segmented into silicon, germanium, transition metal oxides, and gold. The industries that are included in the study of the nanowire battery market include consumer electronics, automotive, aviation, energy, and medical devices. The nanowire battery market is segmented into four regions—North America, Europe, Asia Pacific (APAC), and the Rest of the World (RoW).

Reasons to buy the report:

Illustrative segmentation, analysis, and forecast for markets based on material type, industry, and region have been conducted to give an overall view of the nanowire battery market.

The value chain analysis has been performed to provide an in-depth insight into the nanowire battery market.

Major drivers, restraints, opportunities, and challenges for the nanowire battery market have been detailed in this report.

The report includes a detailed competitive landscape along with key players, in-depth analysis, and revenue of key players.

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