

Thermoelectric Modules - Global Market Outlook (2020-2028)

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Abstracts

According to Statistics MRC, the Global Thermoelectric Modules Market is accounted for \$489.54 million in 2020 and is expected to reach \$1,057.04 million by 2028 growing at a CAGR of 10.1% during the forecast period. Benefits of TEMs over conventional systems and simultaneous heating & cooling properties of TEMs are the major factors propelling the market growth. However, inherent disadvantages, design complexities and high costs compared to traditional heating/cooling systems are hampering the market growth.

Thermoelectric module widely known as thermoelectric cooler is a device which is placed inside of gadget or embedded in machine to transfer the heat from one side to other. It is also called Peltier cooler, which is a semiconductor-based electronic device that functions as a mini heat pump and transmits heat from one side of the device to the other. The thermoelectric modules can instantly warm or cool an object by producing temperature differentials. The thermoelectric modules consist of semiconductor elements that are deeply doped with electric carriers.

Based on end user, the automotive segment is going to have a lucrative growth during the forecast period owing to the fast growth of electric vehicles in the market.

Thermoelectric modules are suitable for heating batteries in electric cars to overcome the poor performance of batteries in cold weather conditions. Other uses of these modules in automotive applications include cooling laser diodes in head-up displays, cool cup holders and glove boxes in car cabins, cooling sensor devices such as LIDAR in autonomous vehicles, and cooling laser diodes in laser headlights. Hence, with the rise in vehicles equipped with convenience features and the high growth potential of electric and autonomous vehicles, the market for thermoelectric modules for automotive applications is expected to witness the fastest growth during the forecast period.

By geography, Asia Pacific is going to have a lucrative growth during the forecast period due to the large-scale manufacturing mainly in China and significant investments in new vehicle technologies including electric vehicles, LiDAR, and autonomous vehicles. The fast growth of luxury vehicles in China equipped with features such as heated/cooled seats, cooled glove boxes, and mini freezers is expected to drive the market for thermoelectric modules in the automotive segment. Japanese automotive manufacturers such as Toyota (Japan) and Honda (Japan) are fusing electrification technology for their vehicles, which is expected to facilitate the demand for thermoelectric modules in electric vehicles.

Some of the key players profiled in the Thermoelectric Modules Market include Align Sourcing, Crystal Ltd., Ferrotec Holdings Corp., Guangdong Fuxin Technology, HiTECH Technologies, Hi-Z Technology Inc., II-VI Inc, KELK Ltd., Kryotherm, Kyocera Corporation, Laird Thermal Systems, Phononic, TE Technology, TEC Microsystems, Thermonamic Electronics (Jiangxi) Corp. Ltd, Wellen Technology Co. Ltd., Xiamen Hicool Electronics Co. Ltd, and Z-Max.

Types Covered:

Bulk Thermoelectric Modules

Micro Thermoelectric Modules

Thin-Film Thermoelectric Modules

Functionalities Covered:

Deep Cooling

General Purpose

Offerings Covered:

Hardware

Software & Services

Models Covered:

Multi Stage

Single Stage

Materials Covered:

Bismuth Telluride (Bi₂Te₃)

Lead Telluride (PbTe)

Silicon Germanium (SiGe)

Applications Covered:

Analytical Instrumentation

Electronics and Safety Systems

Refrigeration and Cryogenics

Thermal Cycling

Detectors

Commercial

Government

End Users Covered:

Consumer Electronics

Industrial

Telecommunications

Automotive

Medical & Laboratories

Aerospace & Defense

Oil, Gas and Mining

Food and Beverages

Energy and Utility

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 2019, 2020, 2021, 2025, and 2028

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

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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)

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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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