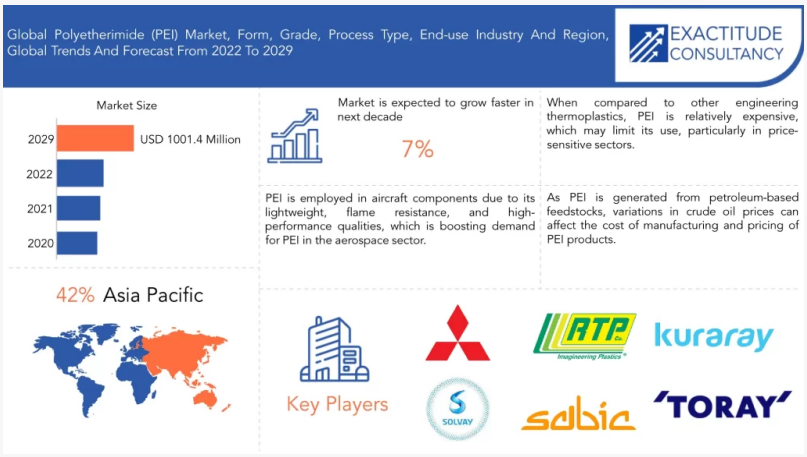
Polyetherimide (PEI) Market is Predicted to Surge USD 1001.4 million, at A CAGR of 7% By 2029 | Exactitude Consultancy

Polyetherimide (PEI) market is driven by high-performance thermoplastic demand, aerospace and electronics growth, and superior mechanical properties.



Polyetherimide (PEI) Market

LUTON, BEDFORDSHIRE, UNITED KINGDOM, November 18, 2023 /EINPresswire.com/ -- The global polyetherimide market is expected to grow at 7% CAGR from 2023 to 2029. It is expected to reach above USD 1001.4 million by 2029 from USD 623.4 million in 2022.

Polyetherimide is a high-performance engineering thermoplastic with high demand in the global market due to its high strength and stiffness at high temperatures. Furthermore, low smoke emission, flame resistance, creep resistance, and thermal conductive qualities are expected to drive global market growth throughout the forecast period. Polyetherimide (PEI) has good dimensional stability and is chemically resistant to alcohols, halogenated carbons, and hydrocarbons. Because of its heat dissipation properties, it is also used as a metal substitute in electrical and electronic applications. Because of the aforementioned characteristics, they can generate up to 40% more power than a stationary panel, which is expected to drive product growth.

> PEI market grows due to demand in high-performance sectors like aerospace, automotive, electronics, and healthcare, driven by its exceptional thermal and mechanical properties.
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> *Exactitude Consultancy*

The automobile industry's fast expansion has created market demand for polyetherimides. The material is utilized to make automotive interior elements such as handles, pistons, bezels, electromechanical devices,

thermostat housings, and light sockets. With the increasing use of high-performance plastics, the rapid rise in the electronics industry is likely to boost market growth.

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Recent Developments:

• May 2023 – The Mitsubishi Chemical Group (the MCG Group) had announced that samples of DURABIOTM D93 Series (under development), a new grade of the plant-derived bioengineering plastic DURABIOTM with a greater biobased synthetic polymer content, have been made available this month. DURABIOTM is a bioengineering plastic made from the renewable plant-derived raw material "isosorbide" that reduces the consumption of petroleum, a finite resource, and contributes to the reduction of greenhouse gases as the plants used as raw materials absorb carbon dioxide during the growth process.

• May 2023 – Solvay, a worldwide specialty materials industry leader, had introduced KetaSpire® KT-857, a novel polyetheretherketone (PEEK) extrusion compound intended specifically for copper magnet wire insulation in electric motors. The shift by OEMs toward greater density batteries and electric powertrains running at 800V or higher to solve customer range anxiety drove the creation of the custom-engineered insulating material.

• April 2023 – Solvay and GKN Aerospace had extended their partnership agreement struck in 2017. Under the terms of the agreement, both companies will create a combined thermoplastic composites (TPC) roadmap to investigate innovative materials and production techniques for aerospace structures, as well as jointly target future key high-rate applications. Furthermore, Solvay will continue to be GKN Aerospace's preferred supplier of TPC materials.

Asia-Pacific is expected to be the 42% polyetherimide (PEI) market throughout the projected period, with China, Japan, and India being the prominent nations with promising growth prospects.

The market is expanding due to the expansion of different end-use sectors such as industrial, transportation, electronics, and medical, which is producing massive demand for polyetherimide (PEI). Furthermore, the rising demand for specialty polymers in the industrial sector, as well as the existence of a significant number of polyetherimide (PEI) producers in the Asia-Pacific region, are driving market expansion. During the projection period, North America and Europe are also likely to provide significant growth possibilities.

Europe is another important market for PEI, with Germany, France, and the United Kingdom leading the way. The automobile and aerospace industries are important consumers of PEI in

Europe. The region’s stringent safety and pollution rules drive up demand for lightweight and durable materials like PEI. Furthermore, the European electrical and electronics industry contributes to market growth through applications in connections, sockets, and consumer electronics.

Polyetherimide (PEI) Market Technological Trends

• Advanced Processing Technologies: Continued advancements in processing technologies for Polyetherimide, such as injection molding and extrusion, may improve manufacturing efficiency and product quality. This includes innovations in precision molding and 3D printing techniques.

• Enhanced Performance Additives: Integration of specialized additives to improve the overall performance of PEI, such as enhanced heat resistance, flame retardancy, and electrical conductivity, contributes to expanding applications in various industries.

• Recycling and Sustainability: Technological trends may involve the development of sustainable practices, including recycling methods for PEI. Efforts to improve the recyclability and reduce the environmental impact of PEI production processes could be a focus.

• Nanocomposites: Incorporating nanocomposites into PEI formulations to enhance mechanical, thermal, and electrical properties. This can lead to the development of PEI-based materials with improved strength, stiffness, and flame resistance.

• Bio-based PEI: Research into bio-based sources for PEI production, aiming to reduce dependency on fossil fuels and provide more environmentally friendly alternatives.

• Smart and Functional Materials: Integration of PEI into the development of smart materials, with applications in electronics, automotive, and aerospace. This could involve the incorporation of sensors or other functional features into PEI-based products.

Here Are Some Factors That May Impact the PEI Market

• Demand in High-Performance Applications: PEI is valued for its high-temperature resistance, dimensional stability, and electrical properties, making it suitable for applications in harsh environments, such as aerospace and electronics.

• Growth in Automotive Sector: The automotive industry uses PEI in various components, including connectors, sensors, and interior parts. The increasing demand for lightweight and high-performance materials in the automotive sector may contribute to the growth of the PEI market.

• Electronics and Electrical Applications: PEI's electrical insulating properties make it suitable for electronic components, connectors, and insulators. The growth of the electronics industry,

especially in the production of miniaturized and high-performance devices, may drive the demand for PEI.

• Healthcare Industry Usage: PEI is used in medical devices and equipment due to its biocompatibility, sterilizability, and resistance to chemicals. The growth of the healthcare sector could contribute to increased demand for PEI.

• Research and Development: Ongoing research and development activities may lead to the development of new formulations or grades of PEI, expanding its potential applications and driving market growth.

• Regulatory Landscape: Changes in regulations related to environmental sustainability and material safety can impact the market. The industry may see an increased focus on eco-friendly and recyclable materials.

• Global Economic Factors: Economic conditions, trade policies, and global market trends can influence the demand and supply of PEI in different regions.

Polyetherimide Market Key Players

- SABIC
- Ensinger Plastics
- RTP Company
- Kuraray Group
- Röchling Group
- Toray Industries
- Mitsubishi Chemical Corporation
- Solvay

Full Report Description, TOC, Table of Figure, Chart, etc.-

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Polyetherimide Key Market Segments:

Polyetherimide (PEI) Market by Form, 2023-2029, (USD Million), (Kilotons)

- Film
- Sheet
- Granule
- Tube
- Rod

Polyetherimide (PEI) Market by Grade, 2023-2029, (USD Million), (Kilotons)

- Reinforced
- Unreinforced

Polyetherimide (PEI) Market by Process Type, 2023-2029, (USD Million), (Kilotons)

- Injection Molding
- Extrusion Molding
- Thermoforming
- Compression Molding

Polyetherimide (PEI) Market by End-User Industry, 2023-2029, (USD Million), (Kilotons)

- Transportation
- Electrical & Electronics
- Consumer Goods
- Medical
- Industrial

Market Dynamics

Drivers:

- Increasing Demand in Aerospace and Automotive Industries:

PEI's high-temperature resistance, flame-retardant properties, and mechanical strength make it suitable for various applications in aerospace and automotive industries.

- Growing Demand in Electronics and Electrical Industries:

The electronic and electrical industries use PEI due to its excellent electrical properties, including high dielectric strength and low dissipation factor.

- Rising Need for Lightweight and High-Performance Materials:

As industries strive for lightweight materials to improve fuel efficiency and overall performance, PEI's combination of strength and lightness becomes attractive.

- Expanding Healthcare Sector:

PEI is used in medical devices and equipment due to its biocompatibility, high strength, and resistance to steam sterilization.

Restraints:

- High Cost:

PEI is relatively more expensive compared to some other engineering plastics, which can limit its adoption, particularly in cost-sensitive applications.

- Limited Processing Techniques:

PEI's high processing temperatures can limit the range of processing techniques, and this may pose challenges in certain manufacturing processes.

Opportunities:

- Research and Development:

Ongoing research and development efforts to enhance the properties of PEI and develop cost-effective manufacturing processes can open new opportunities.

- Emerging Applications:

Identifying and developing new applications for PEI in emerging industries or innovative technologies can contribute to market growth.

Challenges:

- Competitive Landscape:

The market faces competition from other high-performance polymers and materials, and companies need to differentiate their products to maintain a competitive edge.

- Global Economic Conditions:

Economic downturns can impact industries like automotive and aerospace, which are significant consumers of PEI, affecting overall demand.

- Environmental Concerns:

Increasing emphasis on sustainable and eco-friendly materials may pose a challenge for PEI, and companies may need to address environmental concerns associated with its production and disposal.

Key Question Answered

1. What is the expected growth rate of the polyetherimide market over the next 7 years?
2. What are the end-user industries driving demand for the market and what is their outlook?
3. What are the opportunities for growth in emerging markets such as Asia-Pacific, the Middle East, and Africa?
4. How is the economic environment affecting the polyetherimide market, including factors such as interest rates, inflation, and exchange rates?
5. What is the expected impact of government policies and regulations on the polyetherimide market?
6. What are the key drivers of growth in the polyetherimide market?
7. Who are the market's major players, and what is their market share?
8. What are the polyetherimide market's distribution channels and supply chain dynamics?
9. What are the technological advancements and innovations in the polyetherimide market and their impact on product development and growth?

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