



**LUCINTEL INSIGHT
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FOUR TRENDS SHAPING THE FUTURE OF THE LOW DIELECTRIC RESIN MARKET

The low dielectric resin market is growing and gaining traction due to increasing use of low dielectric resin in high-speed communication network applications such as antenna interlayer dielectrics, communication cables, and telecommunication equipment. The rising wave of environmentally friendly low dielectric resins is creating significant potential in various applications such as PCB, wire and cable, antennae, microelectronics, radomes, and others. The

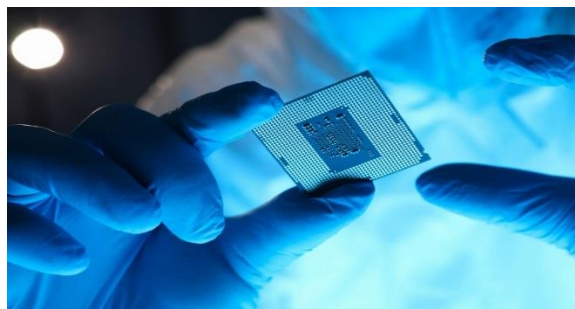
major growth drivers for this market are increasing demand for high-performance PCBs and growth in the wire and cable market.

The low dielectric resin market is divided into several segments, such as fluoropolymer, cyanate ester, cyclic olefin copolymer, m-PPE, polyimide, PET, and others. Key players in the low dielectric resin market include Huntsman, Lonza Group, Zeon, SABIC, and Chemours. These have been working on different strategies to drive sales using highly influential marketing approaches; however, as we examine the challenges and opportunities ahead in this market, companies can benefit from a strategy of developing biomass-derived low dielectric polymers and eco-friendly m-PPE resin, along with the key target market trends we have identified. Lucintel predicts the global low dielectric resin market is expected to grow with a CAGR of approx. 4.3% between 2020 and 2025.

Lucintel identifies four trends set to influence the global low dielectric resin market. Most of the industry players and experts agree that these four trends will accelerate developments in the low dielectric resin industry in the near future. In terms of the widespread knowledge about the low dielectric resin market already on the horizon, there is still a lack of unified perspective on the direction the industry is moving to proactively address developments. To help bring more clarity to this gap, our study aims to provide insights concerning the direction that changes are taking and how these changes will impact the low dielectric resin market.

1. Shift from Epoxy and Bismaleimide Resins to Low Dielectric Resin

Low dielectric resin replaces resins such as epoxy and bismaleimide in microelectronics, radomes, antennae, and high-performance PCBs. The use of low dielectric resins like fluoropolymers, cyanate esters, and polyimides in high-speed PCBs and



microelectronics is increasing, as low dielectric resins provide several supporting properties such as low dielectric constant, high heat resistance high chemical resistance, very low water consumption, environmental friendliness, durability, and fire retardance.

2. Growth in Biomass-Derived Low Dielectric Polymers

Recently, researchers have been interested in low dielectric polymers derived from biomass feedstock. Biomass-derived high-performance polymers have recently received much attention because they are easily available and renewable. These polymers display good dielectric properties and high thermostability, as well as good mechanical properties, implying that they have potential application in the microelectronic industry, especially in fifth-generation communication (5G). The low dielectric polymers based on biomass includes different types of biomass resins such as epoxy resins, benzoxazine resins, benzocyclobutene resins, perfluorocyclobutane resins, cyanate esters, polyester resins, and phthalonitrile resins.



3. Use of Low-Dielectric-Constant Polymers for High-Speed Communication Networks

High-performance polymer materials with a low dielectric constant and low dielectric loss have been widely used in high-speed communication networks. With the rapid development of the 5G communication network, high-performance low-dielectric-constant polymer materials with low dielectric loss are required for application in high-



speed communication devices. Polymers with a low dielectric constant are potentially attractive materials for antenna interlayer dielectrics, communication cables, and various telecommunication equipment. Organic polymer materials commonly possess a lower dielectric constant, excellent mechanical properties, and processability. Typically, polytetrafluoroethylene and aliphatic polymers, such as polyethylene, exhibit the lowest dielectric constant.

4. Use of Eco-Friendly m-PPE Resin

As environmental concerns are growing, many industries are looking for eco-friendly resin for their products. m-PPE is eco-friendly, as it can be recycled and its manufacturing process is environmentally friendly, complying with government regulations.. The government and industrial codes support eco-friendly resin production, therewith increasing demand for eco-friendly low dielectric resin m-PPE.

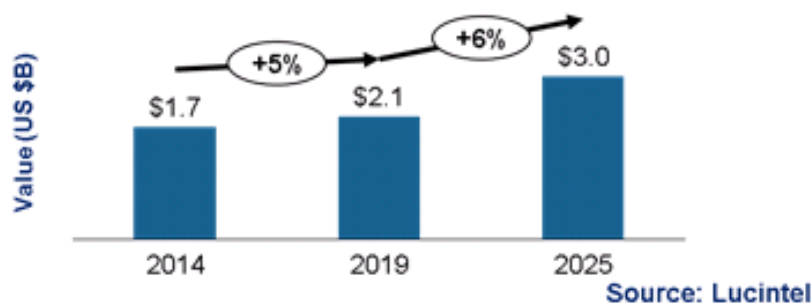


Strategic Considerations for Key Players in the Low Dielectric Resin Market

The low dielectric resin industry is dynamic and ever-changing. Successful industry players are necessarily masters of innovation, change, and adaptation. To retain this status, they need to be attentive to current trends. We believe there will be promising opportunities for low dielectric resin in PCB, wire and cable, antenna, microelectronic, and radome applications. As per Lucintel's latest market research report (Source: <https://www.lucintel.com/low-dielectric-resin-market.aspx>), the [low dielectric resin market](#) is expected to grow with a CAGR of approx. 4.3% between 2020 and 2025. This market is primarily driven by increasing demand for high-performance PCBs and growth in the wire and cable market.



Trends and Forecast for the Global Specialty Carbon Black Market (US \$B) (2014-2025)



Whether you are new to the low dielectric resin market or an experienced player, it is important to understand the trends that impact the development process, as these trends as listed above will lead players to create long-term strategy formulation that will allow them to remain competitive and successful in the long run. For example, to capture growth, some of the strategic considerations for players in the low dielectric resin market are as follows:

- Low dielectric resin market players can increase their capabilities to develop low dielectric resin for high-speed communication networks.
- Players can focus on the development of eco-friendly low dielectric resins, which are expected to lead future trends.
- Investment to increase competencies in the development of biomass-derived low dielectric polymers and m-PPE resin
- Research and development activities for development of low-cost low dielectric resin

Note: In order to gain better understanding, and learn more about the scope, benefits, and companies researched, as well as other details in the low dielectric resin market report from Lucintel, click on <https://www.lucintel.com/low-dielectric-resin-market.aspx>. This comprehensive report provides you in-depth analysis on market trends and forecast, segment analysis, regional analysis, competitive benchmarking, and company profiling of key players. In addition, we also offer **strategic growth consulting** to meet your customized needs. We have worked with many PE firms and corporate customers in the process of their market entry and M & A initiatives.

Lucintel - At a Glance

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