

Printed Circuit Board Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 120 pages | Mordor Intelligence

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Report description:

The Printed Circuit Board (PCB) Market is predicted to grow by registering a CAGR of 4.12% during the forecast period. The market experienced rapid growth in the last few years, primarily owing to the continuous development of consumer electronics devices and the increasing demand for PCBs in all electronics and electrical equipment.

Key Highlights

The consumer electronics industry is proliferating globally due to massive technological advancements. According to a Consumer Technology Association report, the United States consumer technology industry is expected to generate approximately USD 505 billion in retail sales revenue for the first time in 2022, representing a 2.8% increase over 2021. This, in turn, is expected to boost the PCB market as well.

The adoption of PCBs in connected vehicles has also accelerated the PCB market. These are fully equipped vehicles with wired and wireless technologies, making it easy for cars to connect to computing devices like smartphones. With such technology, drivers can unlock their vehicles, start climate control systems remotely, check their electric car's battery status, and track their vehicles using smartphones.

One of the notable trends in the PCB market is the growing demand for high-density interconnect (HDI), which facilitates faster and more compact interconnectivity between devices. With HDI, electronic device manufacturers can mass-produce smaller wireless products with speedier signal transmission and excellent routing capabilities.

Another growing trend in the PCB market is the development of flexible printed circuit board technology, or flex PCBs, which can be curled or bent into various shapes and used in robust computing and wireless devices. Further development in flexible PCB technology can open new opportunities for the vendors.

However, electronic waste (e-waste) is one of the biggest environmental concerns of the modern era. PCBs are often considered a large part of this issue. Some PCB materials do not degrade very well and end up in landfills, polluting the surrounding soil. This

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issue has been highlighted because chemicals used during PCB manufacturing often harm the environment if not correctly disposed of.

The outbreak of COVID-19 deeply affected various industries across the globe, especially during its initial phase. The electronics industry, which comprises printed circuit boards, also experienced the good and bad of COVID-19. While during the initial stage, the manufacturers faced difficulties fulfilling the demand due to supply chain disruptions, the gradual decline in positive cases eased the pressure, allowing them to restart full-fledged operations. The growing acceptance of digital technologies and smart electronic devices is expected to open new growth avenues for the studied market in the next few years.

Printed Circuit Board Market Trends

Consumer Electronics is Expected to Hold a Significant Market Share

Consumer electronics is the fastest-growing segment, contributing to market growth. The main driving force for this segment is the growth of products such as smartphones, wearables, smart home devices, etc., which is expected to rise with the population increase. For instance, according to Ericsson, the global number of smartphone subscribers is expected to reach 7,840 million in 2027, up from 5,950 million in 2020.

Due to the miniaturization trend of mobile devices, such as smartphones, laptops, and tablets, for consumer convenience, there has been a rise in PCB manufacturing. The manufacturers are increasingly focusing on providing customized and innovative PCBs according to different electronic device designs.

The presence of vendors, especially in developed nations such as the United States, is fueling market demand. For instance, American Progressive Circuits Inc. has been developing PCBs for consumer products. The company enables manufacturers to upload a CAD and turn it into a circuit board in a short period, allowing high-volume production of PCBs in a relatively more specific time frame. The company also provides various design and manufacturing solutions, including standard or custom printed circuit board (PCB) fabrication and turnkey PCB solutions.

The number of television viewers is expected to grow due to the increasing penetration of smart televisions and the introduction of online TV platforms such as Netflix, Amazon Prime, Google Pay, and Sky Go. This would encourage market adoption due to the increased deployment of PCBs in television sets.

Increasing penetration of wearables and other smart consumer devices is also expected to support the market's growth, as PCBs are an integral part of these devices. For instance, according to the CTA, in 2022, smartwatches are projected to generate shipment revenues of USD 7.1 billion in the United States, an 8% increase over 2021. Similarly, the revenue from the sales of truly wireless earbuds is expected to rise by 3% in 2022.

Asia Pacific is Expected to Hold a Significant Market Share

The rapid growth of electronics and other industries, such as automotive and manufacturing, is among the leading factors driving the printed circuit board market's growth in the Asia Pacific region. The Asia Pacific region has also emerged as the global semiconductor industry's manufacturing hub, creating a favorable market scenario for the growth of the studied market. With a booming consumer electronics sector, the soaring popularity of IoT, and rising applications in the automotive industry, these are identified as the key factors that will positively impact PCB sales in the region. PCBs' high performance and packaging flexibility will contribute to their future success in interconnectivity solutions.

China has emerged as one of the leading countries in the Asia Pacific PCB market, owing to higher PCB consumption and production. The country is home to several PCB manufacturers who compete at the global level. For instance, HuanYu Future Technologies is among China's most prominent national high-tech PCB manufacturing companies. The company offers a

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comprehensive range of products and services, including high-frequency PCBs, 2-14 layer PCB Prototype, Multilayer PCB, HDI PCB, Thick Copper PCB, Metal Core MCPCB, Flexible PCB, etc.

Other countries in the region are also making significant progress in developing their local electronics manufacturing industries, creating a favorable market scenario for the studied market's growth. For instance, according to Invest India, the Indian government has allowed 100% FDI under the automatic route to boost local electronics production, which is in line with its commitment to reach USD 300 billion in electronics manufacturing and exports by 2025-2026.

Growing consumption by the automotive electronics sector is also expected to gather notable momentum during the forecast period, fueling sales globally. Demand from the aerospace and defense industries of the region will also remain vital during the forecast period.

Printed Circuit Board Market Competitor Analysis

The printed circuit board market is competitive due to the presence of a few significant players like Jabil Inc., Wurth Elektronik Group (Wurth Group), TTM Technologies Inc., Becker & Muller, and Advanced Circuits Inc. Major vendors, with a prominent market share, are focusing on expanding their customer base globally. By leveraging strategic collaborative initiatives, these companies also focus on increasing their market share and profitability. However, with technological advancements and innovations, mid-sized and smaller companies are growing their market presence by securing new contracts and tapping new markets, making the market concentration medium.

Wurth Elektronik ICS, a leading provider of power elements for PCB contacting, introduced a new generation of lead-free high-current contacts in October 2022. The second PowerPlus generation, LF PowerPlus 2.0, has the same current-carrying capacity and torque as the first version, but it is now more efficient and easier to process and assemble, making it a great choice for connecting components and cables to the PCB.

In September 2022, Wurth Elektronik Circuit Board Technology Group announced the foundation of "Wurth Elektronik CBT International GmbH." The new business division's main goal is to improve and grow the company's position on international markets, especially in Europe.

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

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