

Printed Circuit Board Market Forecast to 2030: Global Trends, Opportunities and Competitive Analysis

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Abstracts

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Printed Circuit Board Market Introduction

The global printed circuit board (PCB) market has experienced significant growth in recent years, driven by the increasing demand for electronic components in various industries, including consumer electronics, automotive, telecommunications, and healthcare. Printed circuit boards serve as the foundation for electronic devices, providing electrical connectivity and mechanical support to the intricate network of electronic components. This report provides a comprehensive analysis of the printed circuit board market, including market share insights, size estimations, and a detailed market analysis.

Printed Circuit Board Market Overview

According to Lucintel, the future of the global printed circuit board (PCB) market looks promising with opportunities in the computer/peripherals, communications, consumer electronics, industrial, automotive, and military/aerospace industries. The global PCB market is expected to reach an estimated \$115.6 billion by 2030 with a CAGR of 4.3% from 2024 to 2030. The printed circuit board market has witnessed substantial growth and is expected to continue expanding in the coming years. The market size is influenced by factors such as the increasing demand for smart and connected devices, the rapid growth of the Internet of Things (IoT), and the adoption of advanced technologies such as 5G and artificial intelligence.

Lucintel forecasts that standard multilayers will remain the largest

product type due to increasing demand in computer and communication industries.

Communication will remain the largest end use industry during the forecast period due to growing e-communication. The automotive segment is expected to witness the highest growth due to the increasing demand for electric and hybrid vehicles.

Asia Pacific is expected to remain the largest market and witness the highest growth over the forecast period due to the increasing electronic content in automotive, and growth in consumer electronic devices and telecommunication products. Increasing usage of electric vehicles due to growing environmental concerns and regulations is also expected to drive the demand for PCB in this region.

A total of 137 figures / charts and 117 tables are provided in this 229-page report to help in your business decisions. Sample figures with insights are shown below.

Asia Pacific is expected to remain the largest market in the PCB Market

1. United States: Companies like Intel Corporation, Apple Inc., and Qualcomm Incorporated are leading initiatives in HDI PCB technology. The US government's focus on promoting innovation in semiconductor manufacturing drives research and development in HDI PCBs for applications in smartphones, laptops, and automotive electronics.

2. China: Chinese companies such as Huawei Technologies Co., Ltd., Tencent Holdings Limited, and Xiaomi Corporation are prominent players in the market. China's government support for the semiconductor industry and initiatives like the "Made in China 2025" plan drive the adoption of HDI PCB technology for telecommunications, consumer electronics, and automotive applications.

3. Germany: Companies like Bosch GmbH, Siemens AG, and Infineon Technologies AG are significant in the market. Germany's government initiatives to promote Industry 4.0 and digitalization drive innovation in HDI PCBs for smart manufacturing and automotive electronics.

4. Taiwan: Taiwanese companies such as Taiwan Semiconductor Manufacturing Company Limited (TSMC) and Foxconn Technology Group play a key role in HDI PCB manufacturing. Taiwan's government support for the semiconductor industry and investment in technology research accelerates advancements in HDI PCB technology for various electronic devices.

5. Japan: Companies like Sony Corporation, Panasonic Corporation, and Canon Inc. are active in the HDI PCB market. Japan's government investment in technology research and collaboration with companies promote the development of HDI PCBs for consumer electronics, medical devices, and automotive systems.

Emerging Trends in the PCB Market

Printed circuit boards are essential in the manufacturing of electronic devices, facilitating the interconnection and proper functioning of electronic components. They are used in a wide range of applications, including smartphones, tablets, laptops, automotive electronics, medical devices, and industrial equipment. The market is driven by factors such as the increasing demand for miniaturized and high-performance electronic devices, the growing need for efficient interconnect solutions, and the continuous advancements in technology.

Furthermore, the report includes a detailed market analysis of each PCB type and substrate material, providing information on technological advancements, market trends, and future growth prospects. It examines the regulatory landscape and industry standards affecting printed circuit boards, along with the impact of emerging trends such as high-density interconnects (HDI), embedded components, and 3D printing on the market.

The proliferation of electronic devices and the need for compact, lightweight, and high-performance PCBs are driving the market growth. The printed circuit board industry is also witnessing a shift towards flexible and rigid-flex PCBs, enabling the development of innovative and space-saving designs for various applications. Additionally, the growing focus on sustainable and environmentally friendly practices is influencing the development of eco-friendly PCB materials and manufacturing

processes.

Emerging trend, which has a direct impact on the dynamics of the industry, includes miniaturization of printed circuit boards, growing demand for high speed data and signal transmission, and development of green PCBs. NOK Corporation, Zhen Ding Technology, TTM Technologies, Unimicron Technology, Compeq Manufacturing, Young Poong Electronics, and Ibiden are among the major manufacturers of PCBs.

PCB Market by Segments

The printed circuit board market report provides a comprehensive analysis of market trends, growth drivers, challenges, and opportunities. It covers various segments of the market, including PCB types (single-sided, double-sided, multi-layer), substrate materials (FR-4, flexible, metal core), end-user industries, and geographic regions. The report offers insights into the competitive landscape, profiling key players and their strategies to maintain or improve their market positions. In this market, computers/peripherals will remain the largest end use industry. The study includes trends and forecasts for the global printed circuit board (PCB) market by end use industry, product type, material, raw material usage, and region as follows:

PCB Market by End Use Industry [Value (\$B) and Volume (M Sqm) shipment analysis for 2018 – 2030]:

Computers/Peripherals

Communications

Consumer Electronics

Industrial Electronics

Automotive

Military/Aerospace

Others

PCB Market by Product Type [Value (\$B) and Volume (M Sqm) shipment analysis for

2018 – 2030]:

Rigid 1-2 Sided

Standard Multilayer

HDI/Microvia/Build-Up

IC Substrate

Rigid-Flex

Flexible Circuits

Others

PCB Market by Laminate Materials Type [Value (\$M) shipment analysis for 2018 – 2030]:

FR-4

FR-4 high Tg

FR-4 halogen free

Standard & Others

Flexible (PI,PET)

Paper

Composites

Others

PCB Market by Raw Material Usage [Value (\$B) and Volume (M sqm) shipment analysis for 2018 – 2030]:

Glass Fabric

Epoxy Resin

Kraft Paper

Phenolic Resin

Polyimide Film

PCB Market by Region [Value (\$M) and Volume (M lbs) shipment analysis for 2018 – 2030]:

North America

USA

Mexico

Canada

Europe

Germany

UK

France

Asia Pacific

China

Taiwan

India

Japan

South Korea

The Rest of the World

Printed Circuit Board Market Share

The global printed circuit board market is witnessing significant growth, driven by the increasing demand for electronic devices and the need for efficient interconnect solutions. Market share is concentrated among key players, with ongoing investments in research and development to introduce innovative PCB designs and manufacturing processes. The market share dynamics within the printed circuit board market are evolving, with the emergence of new players and the expansion of contract manufacturers. Additionally, partnerships between PCB manufacturers and electronic component suppliers are driving collaboration and integration within the supply chain, enabling seamless production and timely delivery of electronic devices.

Printed Circuit Board Manufacturers

Companies in the market compete on the basis of product quality offered. Major players in this market focus on expanding their manufacturing facilities, R&D investments, infrastructural development, and leverage integration opportunities across the value chain. With these strategies, PCB companies cater to increasing demand, ensure competitive effectiveness, develop innovative products & technologies, reduce production costs, and expand their customer base. Some of the PCB companies profiled in this report include-

NOK Corporation

Zhen Ding Technology

TTM Technologies

Unimicron Technology

Compeq Manufacturing

Young Poong Electronics

Ibiden

SEMCO

Tripod Technology

Daeduck

AT&S

Nan Ya Printed Circuit Board

Recent Developments in PCB Market

- 1. Rise in Demand for Electric Vehicles (EVs):** With the global shift towards electric vehicles, there's been a surge in demand for PCBs used in EV components such as battery management systems and power electronics. This trend is likely to continue as more countries push for electrification of transportation.
- 2. 5G Deployment:** The deployment of 5G technology requires advanced and high-performance PCBs for base stations, antennas, and other network infrastructure. As 5G networks continue to roll out globally, the demand for specialized PCBs to support this technology is increasing.
- 3. Miniaturization and High-Density Interconnect (HDI) PCBs:** There's a growing demand for smaller and more compact electronic devices, driving the need for HDI PCBs that can accommodate higher component density in limited space. This trend is prominent in industries such as consumer electronics and healthcare devices.
- 4. Supply Chain Disruptions:** Like many other industries, the PCB market has been affected by supply chain disruptions caused by factors such as the COVID-19 pandemic, trade tensions, and natural disasters. These disruptions have led to challenges in sourcing raw materials and components, impacting production schedules and costs.
- 5. Environmental Regulations and Sustainability:** There's an increasing focus on environmental sustainability in the electronics industry, including the PCB manufacturing

sector. Regulations related to hazardous substances like RoHS (Restriction of Hazardous Substances) and WEEE (Waste Electrical and Electronic Equipment) are driving changes in PCB materials and manufacturing processes towards greener alternatives.

Frequently Asked Questions (FAQ)

Q1. How big is the PCB market?

Answer: The global PCB market is expected to reach an estimated \$115.6 billion by 2030.

Q2. What is the growth forecast for PCB market?

Answer: The global PCB market is expected to grow with a CAGR of 4.3% from 2024 to 2030.

Q3. What are the major drivers influencing the growth of the PCB market?

Answer: The major drivers for this market are increasing demand for PCB in the communication industry, growth in connected devices, and growth in automotive electronics.

Q4. What are the major applications or end use industries for PCB?

Answer: The future of the printed circuit board (PCB) market looks promising with opportunities in the computer/peripherals, communications, consumer electronics, industrial, automotive, and military/aerospace industries.

Q5. What are the emerging trends in PCB market?

Answer: Emerging trend, which has a direct impact on the dynamics of the industry, includes miniaturization of printed circuit boards, growing demand for high speed data and signal transmission, and development of green PCBs.

Q6. Which are the key players in PCB market?

Answer: Some of the key PCB companies are as follows:

NOK Corporation

Zhen Ding Technology

TTM Technologies

Unimicron Technology

Compeq Manufacturing

Young Poong Electronics

Ibiden

SEMCO

Tripod Technology

Daeduck

AT&S

Nan Ya Printed Circuit Board

Q7. Which PCB segment will be the largest in future?

Answer: Lucintel forecasts that standard multilayers will remain the largest product type due to increasing demand in computer and communication industries.

Q8. Which country is the largest producer of printed circuit board market ?

Answer: Asia Pacific is expected to remain the largest market and witness the highest growth over the forecast period due to the increasing electronic content in automotive, and growth in consumer electronic devices and telecommunication products. Increasing usage of electric vehicles due to growing environmental concerns and regulations is also expected to drive the demand for PCB in this region.

Q9. Do we receive customization in this report?

Answer: Yes, Lucintel provides 10% Customization Without any Additional Cost.

Features of the Printed Circuit Board (PCB) Market

Market Size Estimates: Printed Circuit Board (PCB) market size estimation in terms of value (\$M)

Trend And Forecast Analysis: Market trends (2018-2023) and forecast (2024-2030) by various segments and regions.

Segmentation Analysis: Printed circuit board (PCB) market size by various segments, such as end use industry, product type, material, raw material usage in terms of value.

Regional Analysis: Printed circuit board (PCB) market breakdown by North America, Europe, Asia Pacific, and the Rest of the World.

Growth Opportunities: Analysis on growth opportunities in different end use industry, product type, material, raw material usage, and regions for the printed circuit board (PCB) market.

Strategic Analysis: This includes M&A, new product development, and competitive landscape for the printed circuit board (PCB) market.

Analysis of competitive intensity of the industry based on Porter's Five Forces model.

This report answers following 11 key questions

Q.1 What are some of the most promising potential, high-growth opportunities for the global printed circuit board (PCB) market by end use industry (computer/peripheral, communication, consumer electronics, industrial electronics, automotive, military/aerospace, and others), product type (standard multilayer, flexible circuits, HDI/microvia/build-up, IC substrate, rigid 1-2 sided, rigid flex, and others), laminate material type (FR-4, flexible, paper, CEM and others), laminate raw material usage (glass fabric, epoxy resin, kraft paper, phenolic resin, and polyimide film), and region

(North America, Europe, Asia Pacific, and the Rest of the World)?

Q.2 Which segments will grow at a faster pace and why?

Q.3 Which regions will grow at a faster pace and why?

Q.4 What are the key factors affecting market dynamics? What are the drivers and challenges of the Printed Circuit Board (PCB) market?

Q.5 What are the business risks and threats to the printed circuit board (PCB) market?

Q.6 What are emerging trends in the printed circuit board (PCB) market and the reasons behind them?

Q.7 What are some changing demands of customers in the printed circuit board (PCB) market?

Q.8 What are the new developments in the printed circuit board (PCB) market? Which companies are leading these developments?

Q.9 Who are the major players in the printed circuit board (PCB) market? What strategic initiatives are being implemented by key players for business growth?

Q.10 What are some of the competitive products and processes in the printed circuit board (PCB) market, and how big of a threat do they pose for loss of market share via material or product substitution?

Q.11 What M&A activities did take place in the last five years in the printed circuit board (PCB) market?

For any questions related to printed circuit board (PCB) market or related PCB design software market, automotive PCB market, high density interconnect PCB market, automotive PCB market growth, PCB companies, PCB market size, PCB market share, PCB analysis, write Lucintel analyst at email: helpdesk@lucintel.com we will be glad to get back to you soon.

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7.8: Samsung Electro-Mechanics

7.9: Tripod Technology

7.10: Daeduck GDS

7.11: Nan Ya Printed Circuit Board Corporation

7.12: AT&S

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