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Aerospace and Defense PCB Market Forecasts to 2030 – Global Analysis By Product (Single-sided PCB, Double-Sided PCB and Multi-Layered PCB), Design, Aircraft, Material, Application and By Geography

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Abstracts

According to Stratistics MRC, the Global Aerospace and Defense PCB Market is accounted for $2.02 billion in 2024 and is expected to reach $3.40 billion by 2030 growing at a CAGR of 9.0% during the forecast period. Defence and Aerospace Specialised circuit boards made for the aerospace and defence sectors are referred to as PCBs (Printed Circuit Boards). High reliability, longevity, and resilience to harsh environmental factors like temperature fluctuations, vibrations, and radiation are just a few of the demanding specifications that these PCBs are designed to fulfil. They ensure safety, performance, and functionality in demanding applications by being utilised in vital systems such as radar, communication, navigation, and control systems in aeroplanes, satellites, military vehicles, and defence equipment.

Market Dynamics:

Driver:

Growing demand for advanced weaponry and aircraft

High-performance equipment is a top priority for the military and defence industries, thus dependable and effective PCBs are essential to operational success. Complex circuit designs are necessary for advanced armament systems, such as drones and missiles, to operate at their best. In a similar vein, producers of aeroplanes require sturdy, high-frequency PCBs to accommodate advanced avionics and communication systems. The need for PCBs is accelerated by the increased focus on technical

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innovation and developments in aerospace and defence systems. As governments and defence contractors continue to invest in next-generation solutions, this trend is anticipated to support the market's growth.

Restraint:

Stringent regulatory compliance

First, producers have to meet a lot of quality and safety requirements, which raises operating expenses. Product innovation is hampered by the drawn-out approval procedures for designs and components, which prolong time to market. Furthermore, market access and cross-border cooperation are restricted by export control restrictions. Maintaining certifications, which calls for ongoing audits and monitoring, is a difficult for manufacturers. Finally, the complexity of compliance may deter smaller businesses from joining the market, which would limit innovation and competition.

Opportunity:

Advances in IoT and autonomous systems

IoT integration improves the operational capabilities of defence and aerospace systems by enabling real-time data collecting and transmission. High-performance PCBs are necessary for autonomous systems, such drones and self-guided missiles, to handle intricate tasks and guarantee dependability in crucial operations. The market is growing as a result of the growing requirement for innovation in PCB design and production as these technologies advance. In general, the market for aerospace and defence PCBs is being driven towards more advanced, robust, and flexible solutions by the ongoing development of IoT and autonomous systems.

Threat:

Geopolitical and economic uncertainty

Defence budget fluctuations, which are frequently linked to political unrest, might result in less money being spent on new initiatives and innovation. Budget cuts brought on by economic downturns may affect the need for cutting-edge military technology. Trade restrictions, bans, and tariffs can increase the cost of materials and restrict access to important suppliers. Long-term agreements and foreign partnerships, which are crucial for the expansion of the sector, may also be deterred by the uncertainty. All things

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considered, these elements have the potential to foster a risky atmosphere that impedes market growth and stability.

Covid-19 Impact

The COVID-19 pandemic significantly disrupted the aerospace and defense PCB (Printed Circuit Board) market due to supply chain interruptions and delays in manufacturing. Production shutdowns in key regions led to shortages in critical components, affecting the delivery timelines of aerospace projects. However, the increasing reliance on advanced technologies such as UAVs and satellite systems helped sustain demand for PCBs in defense applications. The pandemic also prompted the aerospace sector to reassess its supply chain resilience and diversify sourcing strategies. Despite these challenges, the market is expected to recover as global defense budgets stabilize and the aerospace sector adapts to post-pandemic conditions.

The double-sided PCB segment is expected to be the largest during the forecast period

The double-sided PCB segment is expected to account for the largest market share during the forecast period by offering improved circuit density, allowing for more compact and efficient designs. These PCBs support complex circuitry, essential for aerospace and defense systems that require high performance and reliability. With both sides of the board utilized, double-sided PCBs optimize space, reducing weight and improving functionality, crucial in space-constrained environments. Additionally, the growing demand for advanced communication, navigation, and surveillance equipment also boosts the adoption of these PCBs in aerospace and defense applications.

The radio communication segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the radio communication segment is predicted to witness the highest growth rate, due to reliable and secure communication systems crucial for military operations and space missions. High-performance PCBs are essential for radio communication devices like satellites, radar systems, and communication links. The demand for advanced radio communication systems has led to the development of specialized PCBs that can withstand extreme conditions and offer high-frequency performance. As defense and aerospace technologies advance, the need for more efficient, compact, and durable PCBs increases, driving innovation in the market.

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Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share is driven by increased demand for advanced technologies in aviation, defense systems, and space exploration. Rising investments in military modernization, expanding aerospace manufacturing, and the proliferation of unmanned systems are key factors fuelling this growth. Countries like China, India, Japan, and South Korea are major players, benefiting from strong manufacturing capabilities, government initiatives, and strategic partnerships with global aerospace firms. The market is also supported by innovations in PCB materials, lightweight designs, and increased adoption of high-frequency PCBs for enhanced performance in mission-critical applications.

Region with highest CAGR:

Over the forecast period, the South America region is anticipated to exhibit the highest CAGR, owing to the increasing investments in military and defense sectors, along with a growing aerospace industry. With rising demand for advanced technologies, including satellite communications, radar systems, and avionics, the market for printed circuit boards (PCBs) is expanding. Key factors such as technological advancements, modernization of defense infrastructure, and the need for lightweight, high-performance materials are driving growth. Brazil is the major player in the region, contributing significantly to the demand for PCBs, while other countries are increasingly adopting electronic systems for military and aerospace applications.

Key players in the market

Some of the key players profiled in the Aerospace and Defense PCB Market include TTM Technologies, Sierra Circuits, Calumet Electronics, TechnoTronix, Tempo Automation, Excello Circuits, Mermar Inc, Summit Interconnect, Unimicron Electronics, AdvancedPCB, Park Aerospace Corp, Hybricon Corporation, ABL Circuits, Altek Electronics, Alba Eletronica s.r.l., Blind Buried Circuits Inc, E-TekNet Inc., OnBoard Circuits, Inc, ICAPE GROUP and Global Well PCBA.

Key Developments:

In January 2025, TechnoTronix announced the launch of its latest line of multilayer PCBs designed specifically for harsh environmental conditions typical in aerospace applications. These products are engineered to meet stringent military standards, ensuring high reliability and performance.

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In February 2024, Calumet Electronics and SCHMID Group announced a collaboration to establish the first-ever U.S.-based advanced substrate facility. This partnership aims to enhance domestic production capacity for advanced substrates, aligning with the U.S. Department of Defense's efforts to strengthen the national supply chain for microelectronics.

Products Covered:

- Single-sided PCB
- Double-Sided PCB
- Multi-Layered PCB

Designs Covered:

- Rigid PCB
- Flexible PCB
- Rigid-Flex PCB
- High-Density Interconnect
- Other Designs

Aircrafts Covered:

- Narrow-body Aircraft
- Wide-body Aircraft
- Regional Aircraft
- General Aviation

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- Helicopter
- Military Aircraft
- UAV
- Spacecraft
- Other Aircrafts

Materials Covered:

- Metal
- Non-Metal
- FR-4 (Flame Retardant 4)
- Polyimide
- PTFE (Polytetrafluoroethylene)
- Ceramic-Based PCBs
- Other Materials

Applications Covered:

- Radar Installations
- Power Supplies
- Power Conversion
- Radio Communication
- Lighting

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- Engine Control Systems
- Other Applications

Regions Covered:

- North America
  - US
  - Canada
  - Mexico
- Europe
  - Germany
  - UK
  - Italy
  - France
  - Spain
  - Rest of Europe
- Asia Pacific
  - Japan
  - China
  - India
  - Australia

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- 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 2022, 2023, 2024, 2026, and 2030
- 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

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- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

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)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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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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