

Aerospace & Defense Materials Market Size \$81.1 billion By 2031: Industry Growth, Drivers & Future Scope

Aerospace & Defense Materials Market to grow strongly by 2031, driven by advanced composites and rising defense demand.

AUSTIN, TX, UNITED STATES, August 21, 2025 /EINPresswire.com/ -- Market Overview

The global aerospace and defense materials market is witnessing steady expansion, driven by the increasing demand for lightweight, durable, and high-performance materials. With rising investments in advanced aircraft manufacturing, space exploration, and military modernization programs, industries are focusing on composites, alloys, and specialized polymers that ensure safety, fuel efficiency, and structural strength.



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The U.S. aerospace & defense materials market is expanding rapidly, fueled by rising defense budgets and demand for lightweight composites.”

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Research LLP*

Market Size and Growth

The worldwide market for materials used in [aerospace and defense materials industry](#) systems was valued at about \$43.8 billion in 2023. By 2031, it is projected to climb to around \$81.1 billion, which means it's expanding at an average yearly pace of nearly 8% between 2024 and 2031.

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Lightweight Innovations – Demand for lighter aircraft is pushing manufacturers to adopt carbon composites, titanium alloys, and advanced ceramics to enhance fuel efficiency.

Military Modernization – Governments are expanding defense budgets to support next-gen fighter jets, naval fleets, and unmanned aerial vehicles (UAVs).

Space Exploration Boom – The rapid growth of commercial space travel and satellite launches is opening new opportunities for high-strength, temperature-resistant materials.

Sustainability Shift – The industry is also moving toward eco-friendly and recyclable materials to align with global carbon-reduction goals.

Geographical Share

North America remains a leader, supported by the U.S.'s massive defense spending and NASA's space initiatives.

Europe is investing heavily in green aerospace programs and military upgrades.

Asia-Pacific, led by Japan, China, and India, is emerging as the fastest-growing region due to rising defense needs and strong aerospace manufacturing.

Key Players

Toray Industries Inc.

Solvay S.A.

Hexcel Corporation

Teijin Carbon Europe GmbH

ATI

Arconic

Constellium

Thyssenkrupp Aerospace

Mitsubishi Chemical Group

DuPont de Nemours, Inc.

Market Segments

By Material: (Aluminum Alloys, Titanium Alloys, Nickel-based Alloys, Steel Alloys, Super Alloys, Composites, Heat-Resistant Alloys, Plastics And Polymers, Others)

By Aircraft Type: (Commercial Aircraft, Military Aircraft, Business and General Aviation, Spacecrafts, Helicopters, Others)

By Product Form: (Sheets & Plates, Bars & Rods, Tubes & Pipes, Foils, Films, Prepregs, Others)

By Application (Airframe, Cabin Interior, Propulsion, Aero Engine, Naval System, Weapons, Navigation and Sensors, Satellites, Others)

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Recent Developments

United States

2025: U.S. defense agencies initiated projects to integrate nano-enhanced composites into fighter jets, aiming to boost durability while reducing weight.

2024: NASA partnered with private aerospace firms to test high-temperature ceramic matrix composites for reusable space vehicles.

Japan

2025: Japan launched a new defense materials program focusing on titanium alloys for naval ships and stealth aircraft.

2024: Japanese aerospace firms collaborated with universities to develop hydrogen-compatible materials for sustainable aviation.

Conclusion

The aerospace and defense materials market is entering a transformative phase, fueled by innovation in composites, metals, and sustainable technologies. With global defense strategies evolving and space exploration accelerating, the demand for advanced materials will continue to grow. Companies that innovate in lightweight, eco-friendly, and high-performance solutions will remain at the forefront of this expanding market.

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