

Titanium Alloy - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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Report description:

The Titanium Alloy Market is expected to register a CAGR of greater than 7% during the forecast period.

The pandemic had a negative effect on the market, which recovered in 2021 and is expected to grow further in the forecast period.

Key Highlights

- Over the short term, the market's growth is majorly driven by the growing usage of titanium alloys in the aerospace sector and increasing demand for titanium alloys for combat vehicles to replace steel and aluminum.
- On the flip side, the high reactivity of the alloy demands specialized care during production. This is expected to act as a restraint for the market.
- Furthermore, innovative product development will likely be an opportunity for the market during the forecast period.
- China dominates the market in the Asia-Pacific region, and it is expected to continue to do so during the forecast period. This dominance is attributed to the increasing demand from the chemical, high-end aerospace, automotive, medical, and environmental protection sectors.

Titanium Alloy Market Trends

Increasing Demand of Titanium Alloys in the Aerospace Industry

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- Titanium is one of the most important raw materials for the aerospace industry. Titanium alloys account for the largest share of the aerospace raw material market, closely followed by aluminum alloys.
- Titanium alloys form the third-most important raw materials used in the aerospace industry when considering the weight of raw materials. Around 75% of the high-grade titanium sponge is used in the aerospace industry. It is used in aircraft engines, blades, shafts, and airframe applications (landing gear, fasteners, and wing beams).
- Furthermore, the ability of titanium alloys to operate at severe temperatures ranging from sub-zero to over 600C makes them valuable in aircraft engine casings and other uses. They are perfect for usage in airframes due to their great strength and low density. The aircraft sector uses Ti-6Al-4V alloys the most.
- The top two companies in the world, Boeing and Airbus, are engaged in producing airplanes, jets, helicopters, etc. Therefore, these companies are the major consumers of titanium alloys in the aerospace industry. In 2021, Airbus took gross orders for 909 aircraft. In comparison, Boeing earned 771 gross orders, a twofold increase from 2020.
- Furthermore, according to the International Air Transport Association (IATA), the global revenue for commercial airlines was valued at USD 373 billion in 2020 and was estimated at USD 472 billion in 2021, registering a growth rate of 26.7% Y-o-Y. Furthermore, the revenue was expected to reach USD 658 billion by 2022. Such factors are likely to increase the demand for titanium alloy from aerospace parts manufacturing, in the years to come.
- Aircraft manufacturers are now looking for ways to accelerate production to fill order backlogs. For instance, according to the Boeing Commercial Outlook 2022-2041, the total global deliveries of new airplanes are estimated to be 41,170 by 2041. The global airplane fleet amounted to around 25,900 units as of the year 2019 and the fleet number is likely to reach 47,080 units by 2041.

China to Dominate the Asia-Pacific Region

- China dominates the titanium alloy market in the Asia-Pacific region, which is expected to continue during the forecast period, owing to the increasing demand from the chemical, high-end aerospace, medical, and environmental protection sectors.
- The launch of new production facilities by Xinjiang New Material Co. Ltd and Chaoyang Baisheng Co. Ltd in China is expected to have a major role in boosting the production rate of titanium.
- The demand for titanium alloy in the aerospace industry in China is mainly driven by the growing manufacturing activities of the aerospace industry in the country. Aerospace is a priority industry for the country, with the government investing huge amounts to increase its domestic manufacturing capabilities.
- The Chinese aerospace policy represents one of the most comprehensive attempts to enter the top levels of aerospace development and production. China is expected to be the world's largest single-country market for civil aircraft sales over the next 20 years. For instance, in China, according to the Boeing Commercial Outlook 2022-2041, around 8,485 new deliveries will be made by 2041 with a market service value of USD 545 billion.
- Furthermore, titanium is used in the automotive industry for applications in connecting rods, engine valves, turbo charger wheels, exhaust systems, and suspension springs, among others. China continues to be the world's largest automotive market by both annual sales and manufacturing output. According to OICA (The Organisation Internationale des Constructeurs d'Automobiles), the vehicle production of China reached a total of 26.09 million units in 2021 which is an increase of 3% over 2020 for the same period.

Titanium Alloy Industry Overview

The titanium alloy market is partially fragmented. The major companies (not in particular order) include VSMPO-AVISMA Corporation, NIPPON STEEL CORPORATION, Allegheny Technologies Inc. (ATI), TIMET (Precision Castparts Corp.), and CRS Holdings, LLC.

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Additional Benefits:

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

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