Autonomous Train Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

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Report description:

The Autonomous Train Market was valued at USD 7.89 billion in 2021, and it is expected to reach USD 11.09 billion by 2027 by registering a CAGR of 5.85% during the forecast period (2023 - 2028).

The COVID-19 pandemic has adversely affected the railway industry. Major construction of railway projects was stopped due to the pandemic, which is likely to be a challenge for the autonomous train market. Due to the pandemic, personal transportation witnessed major growth. However, with the rising concerns over emissions, the need for using public transportation and pooling is expected to help the trains market grow.

Growing electrification in the transportation sector is likely to provide major growth for the autonomous train market. Introduction to the internet of things (IoT) in transportation is a major driver for the autonomous train market. For instance, in October 2021, German Rail Corporation and Siemens Mobility developed the world's first train that operates by itself in rail traffic. The train is controlled by digital technology and is fully automated. The driver remains on the train to supervise the journey with passengers on board.

Major governments across developed countries, including China, the United States, and Japan, are investing in connected mobility, which is likely to provide significant growth opportunities for the autonomous train market. Asia-Pacific and North America are likely to dominate the autonomous train market during the forecast period. Asia-Pacific has one of the largest rail networks across the world and is expected to show major growth in the autonomous train market.

Autonomous Train Market Trends

Metro/Monorail Dominating the Global Autonomous Train Market

Metro/Monorail is dominating the global autonomous train market owing to the increase in an efficient, safe, and affordable mode of transport. The rise in penetration of GoA 4 technology in metro rail is likely to witness major growth for the market. GoA 4 is an unattended train operation (UTO) where starting and stopping, operation of doors, and handling of emergencies are fully automated without any on-train staff. Rail is considered one of the safest modes of land transport and more attractive to the customer as this offers a much better service to potential passengers and drives an increase in passenger numbers. The demand for safer and efficient transport is increasing from consumers across the world, highlighting the importance of the adoption of advanced technology-based transport, i.e., autonomous trains for commuting purposes.

Growing electrification of metro/monorail due to the enactment of stringent emission norms across the globe is also witnessing major growth for the market. Introduction to connected metro rail is also creating a challenge for the autonomous train market across the globe. Currently, rail has been identified as one of the most energy-efficient transport modes, accounting for 8% of global motorized passenger movements and 7% of freight but consuming only 2% of transport energy.

Major industries are jointly working on rail projects to develop advanced technology for autonomous metro rail. Latest developments like testing driverless passenger cars are expected to further propel the growth of the market. For instance,

In September 2021, Mitsubishi Heavy Industries Engineering partnered in a new concession of Dubai Metro and Dubai Tram in a joint venture with Keolis and Mitsubishi Corp.
In March 2021, by SNCF and its partners, a prototype was put to the test in the northern region of Hauts-de-France. The company has set a goal to provide fully automated prototypes running by 2023 and to fully expand the train operation by 2025.

Asia-Pacific Region Expected to Witness Significant Growth During the Forecast Period

Asia-Pacific has one of the largest rail networks globally, which is likely to dominate the autonomous train market across the globe. The growing investment by governments across the region, including China, India, and Japan, for rail infrastructure development, is likely to witness major growth in the autonomous train market. The growing popularity of metro travel as public transportation in India is also witnessing major growth in the market. Due to this, the railway network plays a very significant role in the economic development of countries in Asia-Pacific. For instance, in February 2022, the Hangzhou metro opened two new lines and an extension adding more than 59 route km to the network. The installed base of metro-rail rolling stock in India is expected to increase to 5,458 railcars by 2023, owing to the huge demand for commuter transportation in metropolitan cities. A total of 3,343 railcars are planned to be added to the metro-rail network over a period of five years, from 2018 to 2023.

Asia-Pacific is also characterized by the presence of both developed and developing economies, such as Singapore, Malaysia, Indonesia, and Bangladesh. For instance, The Malaysian Industry-Government Group for High Technology (MIGHT) signed a memorandum of understanding with Bombardier Transportation, outlining their collaboration on developing home-grown rail industry expertise over the coming years. The Malaysian government ordered 252 driverless vehicles for the Kuala Lumpur metro Line LRT3 from a consortium of Siemens China, CRRC Zhuzhou, and a Malaysian partner, Tegap Dinamik. The government also ordered 108 Innovia Metro 300 vehicles from a consortium of Hartasuma and Bombardier that are likely to be used for Kuala Lumpur's Kelana Jaya Line.

Major industries are planning to establish rail projects in Asia-Pacific, which is witnessing significant growth in the market. For instance, CRCC also entered into an MoU with the government of Maharashtra, India, for setting up a manufacturing facility in the Multimodal International Cargo Hub and Airport at Nagpur (MIHAN). With these players, expansion into the country is likely to

boost the development of autonomous trains at a fast pace over the coming years.

Autonomous Train Market Competitor Analysis

The autonomous train market is a highly consolidated market owing to the presence of a few major players such as Bombardier, Mitsubishi Heavy Industries, Alstom, Thales, and Siemens AG. Major players are investing in R&D of the equipment to meet international standards, which is likely to witness significant growth for the market.

Some of the major players in the market are adopting various growth strategies such as mergers, acquisitions, collaborations, and agreements to strengthen their position in the market. For instance,

In August 2021, Hitachi Rail STS (Ansaldo) entered an agreement with the Thales Group to acquire the Ground Transportation System business of the Thales Group company. As a result of this agreement, Hitachi Rail is expected to drive growth by expanding the scale of its rail signaling systems business and further advancing its rail automation systems business globally.
In March 2021, Mitsubishi Heavy Industries Engineering Ltd (MHI-ENG) and KEOLIS SA announced that they formed a consortium ("the Consortium") and signed a 15-year contract to operate and maintain Dubai's world-class driverless metro in Dubai and tram networks with the Roads & Transport Authority of Dubai ("RTA").
In January 2021, Alstom completed the acquisition of Bombardier Transportation, thereby creating a competitive manufacturer on a global scale in mobility and rail transport, moving toward greener transportation globally.

Additional Benefits:

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

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