

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

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Report description:

The Locomotive Market was valued at USD 22 billion in 2021 and is expected to reach USD 40.7 billion in 2027 by registering a CAGR of 10% during the forecast period (2023 - 2028).

The market was negatively impacted due to the COVID-19 pandemic in the year 2020. Halt in tourism activities hampered locomotive customers' revenue (governing bodies and private rail operators) and their procurement capabilities. Further, supply chain disruption created several bottlenecks for the locomotive manufacturing companies, negatively impacting the focus market during the forecast period.

Over the long term, an increase in urbanization, environmental sustainability, a broad spectrum of impending rail projects, growth in demand for energy-efficient rolling stock, and an expanding infrastructure of rail networks are expected to act as major factors driving the locomotives market. The extensive rail networks globally further support the growth of electric locomotives to meet the demand as a means of public transport.

In addition, technological progress such as the launch of the Sic module, IGBT module, and auxiliary power units has resulted in a surging demand for locomotive engines. This progress has reduced emissions, escalated fuel efficiency, and lowered overall weight. It has also reduced power loss when switching to the current state.

However, certain restraining factors are impeding the growth of the locomotives market, which include the capital intensiveness of rolling stock, high maintenance costs, and overhaul costs. Despite these market challenges, the global market is expected to grow significantly in the coming years.

With the developing transportation industry, the volume of cargo to be moved is expanding globally, while Asia-Pacific and North America may witness significant growth during the forecast period.

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Locomotive Market Trends

Increasing Number of Electric Locomotive Projects to Fuel Growth of the Market

Locomotives are powered engines that are used to pull trains. The ability of a locomotive to carry a payload separates it from low-power engines. The force required to pull trains is much higher than normal vehicles; thus, large-scale investments are a necessity and not a benefit.

The recent technological advances in design as well as structures of locomotives have allowed applications with higher pulling capacities and lower fuel consumption. The massive investment in the railway sector is consequential to the many passengers it can carry. The extensive railways in densely populated countries such as India will create several growth opportunities for the companies operating in the market. The presence of several large-scale companies will emerge in favor of market growth.

? The Inspiron walkthrough-style trains are planned for introduction in 2023, and they are likely to replace the old trains, which have already surpassed the 40-year design life. These are some of the factors that will soon boost the railway industry and the locomotive market in Europe.

The increasing number of sustainable locomotive projects in major countries worldwide will open up a huge potential for rapid growth. The efforts to develop and deploy electricity-powered locomotives by governments and private companies will emerge in favor of market growth. For instance,

? Rio Tinto, one of the world's three largest iron ore producers, has invested USD 518 million in the effort and has already begun testing automated trains to implement the world's first heavy-haul rail network fully. Helping it create this rail systems are GE and Ansaldo STS. Ansaldo has been developing an automated train management system for the company. The system allows Rio to run driverless trains across its rail network, eliminating the need for upwards of 500 drivers and delivering savings of more than USD 100 million annually. In August 2019, Rio Tinto transitioned to entirely the automated operation of its 1500km railway in the Pilbara region of Western Australia, becoming the first heavy-haul railway in the world to operate an automated network.

The company has been working on this contract for the past few years, supposedly worth USD 75 million. The Indian government initiated this step with the rising demand for sustainable energy. This step was consequential to the massive fuel consumption and carbon emission in the densely populated country of India.

Asia-Pacific Region is Expected to Lead the Locomotive Market

The Asia-Pacific region is anticipated to hold the largest market share during the forecast period. The massive transport industry and the constantly rising railway passengers and train travel are likely to create several opportunities for the companies operating in the regional market. In addition, the railway is the most preferred means of transport among the passengers of the major Asian economies such as China, India, and Japan. These three countries are also topping the list of passenger-kilometer per year, as major manufacturers of the locomotive market are headquartered in this region.

? The Indian rail market is witnessing steady growth. The installed base of metro-rail rolling stock in India is expected to increase to 5,458 railcars by 2023, owing to a huge demand for commuter transportation in metropolitan cities. Three thousand three hundred forty-three railcars will be added to the metro-rail network over five years, from 2018 to 2023. Of these, contracts for 1,758 railcars have already been awarded. Such factors can boost the demand for autonomous trains equipped with GoA 3 and GoA 4 for metro trains.?

? Japan is one of the prominent countries using autonomous trains. Japan started testing its E7 series Shinkansen bullet trains in

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2021 with a focus on operating such driverless trains soon. The East Japan Railway Co. expects that such trains will reduce human efforts, offer time and cost savings, and improve safety. These are some of the factors that are going to boost the demand for autonomous trains in the Asia-Pacific autonomous train market. ?

Asia-Pacific is also characterized by developed and developing economies, such as Singapore, Malaysia, Indonesia, and Bangladesh. New rail projects for urban passenger transportation and the replacement and maintenance of the existing fleet are expected to drive the market in these countries.?

? 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. ??

Owing to the above factors, the deployment of autonomous trains in the region is expected to observe significant growth during the forecast period.?

Locomotive Market Competitor Analysis

The locomotive market is moderately consolidated and has a limited number of active players owing to the high initial investment cost and technological requirements. The companies are expanding their presence by acquiring other market participants, forming strategic alliances with other players in the market, and launching new and advanced locomotives. For instance,

? In August 2021, Hitachi Rail 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 advancing its rail automation systems business globally.

? In May 2021, Kawasaki Heavy Industries launched the new remote track monitoring services in North America equipped with information and communications technology. This system is expected to improve trackside efficiency and deal with any irregularities for the safety of trains and passengers.

? In March 2020, Alstom SA rolled out its first all-electric locomotive, a part of a USD 3.5 billion order of 800 electric double-section locomotives signed back in 2015 with the Indian Ministry of Railways public-private partnership. In 2020, Alstom announces that it has signed an MoU with Bombardier Inc. and Caisse de depot et placement du Quebec (?CDPQ?) for the acquisition of Bombardier Transportation. The price for the acquisition of all the Bombardier Transportation shares will be around EUR 6 billion.

? In 2020, Deutsche Bahn awarded 50 hybrid locomotives orders to Toshiba Corporation. This hybrid locomotive can provide annual energy savings of 30% and diesel fuel savings of 1 million liters per year.

Some of the major players in the market are CRRC, Alstom SA, Siemens AG, and Hyundai Rotem.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
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