

Autonomous Train Braking System Market Strategic Imperatives for Success and Rising Demand Till 2032

Autonomous Train Braking System Market by Train Type and by Brake Type Global Opportunity Analysis and Industry Forecast, 2023-2032

NEW CASTLE, DELAWARE, UNITED STATES, September 25, 2023 /EINPresswire.com/ -- Braking is a mechanical operation used to retard a vehicle's speed when in motion. The braking system in railways not only reduces the train's ongoing speed but also controls the speed at optimal levels of its run. Railway braking system is quite complex as compared to other vehicle braking systems. There are three primary functions of braking systems used in railways—one is to



stop the train at a fixed point, the second is used to maintain a low speed and the third is used for emergency braking. The railway braking system works on compressed air locking. When the autonomous train approaches the station under and reaches the first beacon via a fixed transponder station brake sends a command to the train. The on-board computer calculates the braking curve to enable to stop the train at the correct point, as the train approaches nearer to the platform the curve is updated several times to ensure accuracy. Moreover, there is emergency braking also available as a safeguard if there is some failure in the sensors and the train fails to stop.

Due to COVID-19, the government across all countries declared lockdown and various other

restrictions. The imposed lockdown on the rail industry had disrupted railway manufacturing and the demand for transportation via railway has also fallen. Moreover, due to social distancing norms and other restrictions, led to the unavailability of labor which delayed the manufacturing process. Furthermore, the R&D for the autonomous train has also been affected since there was the availability of a skilled workforce required for software development. Thus, it affected the demand for the autonomous train braking system. Furthermore, the raw material and electronic components required for manufacturing of autonomous train braking system was also unavailable which disrupted the whole operation. The autonomous train braking system is an evolving sector that was disrupted by COVID-19, but it is expected to resume in the postpandemic phase by improving the demand for the product.

Increase in demand for digitalization of railways, rise in demand for autonomous trains, and surge in requirement of safe & secure transport systems drive the growth of the market. However, system failures leading to accidents, threat of cyber-attack, and high initial investment & maintenance costs hamper the market growth.

Moreover, an upsurge in government investment towards railway development, traveling via railways, and an effective braking system can act as an opportunity for growth of the market.

Improved energy efficacy, enhanced safety, and minimized costs are some of the factors driving the growth of the autonomous train market over the last decade. Moreover, high-speed train mishaps and passenger injuries caused during door operations have led to nearly 1900 accidents collectively, in Europe alone. This posed a major concern, which has been the prime area to boost autonomous train deployment significantly. Digitalisation has been at the forefront in reducing the distance and time between trains with intensive exploitation of tracks eventually providing better end-user experience while maintaining safety standards. Furthermore, the usage of digital technologies such as 5G, big data, the Internet of Things, automation, artificial intelligence, and blockchain is expected to strengthen the digitalization of railways. For instance, China is likely to start a "smart" high-speed railway line equipped with automated bullet trains and AI-powered robotic porters by the end of 2019. The self-driving trains, named Fuxing or Rejuvenation, will use an automatic train operating system developed by Chinese engineers. Thus, all these developments in autonomous trains will drive the growth of the <u>autonomous train braking system market</u>.

This study presents the analytical depiction of the autonomous train braking system market along with the current trends and future estimations to determine the imminent investment pockets.

The report presents information related to key drivers, restraints, and opportunities along with challenges of the autonomous train braking system market.

The current market is quantitatively analyzed to highlight the autonomous train braking system market growth scenario.

The report provides a detailed autonomous train braking system market analysis based on competitive intensity and how the competition will take shape in the coming years.

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Which are the leading market players active in the autonomous train braking system market? What would be the detailed impact of COVID-19 on the market?

What current trends would influence the market in the next few years?

What are the driving factors, restraints, and opportunities in the autonomous train braking system market?

What are the projections for the future that would help in taking further strategic steps?

00 00000 0000: Metros, High Speed, Monorail, Freight

00 00000 0000: Pneumatic, Electrodynamic, Mechanical, Electromagnetic

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