Hybrid Train Market by Propulsion Type (Electro Diesel, Battery Operated, Hydrogen, CNG, LNG, and Solar), Application (Passenger and Freight), Operating Speed (>100 km/h, 100-200 km/h, <200 km/h), Battery Technology and Region - Global Forecast to 2030

Market Report | 2022-08-19 | 212 pages | MarketsandMarkets

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Report description:

The global hybrid train market size is projected to reach 745 units by 2030, from an estimated 470 units in 2022, at a CAGR of 5.9%.

"The battery powered segment is expected to be the second-fastest propulsion segment in the forecast."

The battery-powered train propulsion has a powertrain that consists of different motors and batteries. These batteries can be charged either by overhead wires or at the charging stations. The battery-powered trains are efficient as they have the advantage of lower installation and operating costs than conventional diesel trains. These trains are also noiseless in operation and do not have exhaust, which fulfills the need for emission-free railway operations. These trains are 80-90% efficient when it comes to recyclability. Generally, Lithium-Ion batteries are used in battery-powered trains around the world. For instance, In January 2021, BNSF and Wabtec Corporation is working on the future potential of battery-electric locomotives and they begin testing between Barstow and Stockton, California. There are few companies working on developing battery-powered trains in the region. For instance, in November 2021, Niederbarnimer Eisenbahn (NEB) has ordered 31 two-car, battery-operated Mireo Plus B trains from Siemens Mobility get delivered by December 2024. The company will also manage energy costs and energy consumption for the next 30 years. In February 2020, Alstom received its first supply contract of battery-electric regional trains that will be deployed on the Leipzig-Chemnitz line in Germany. The contract includes three-car trains having a maximum speed of 99 mph and can cover 75 miles. These developments showcase the high demand for battery-powered hybrid trains.

"Freight segment is expected to be the fastest-growing application segment during the forecast period."

Freight transportation accounts for fastest market in hybrid train market owing to the increase in freight transportation by rail specially in Europe. For instance, in June 2022, CRRC (China) announced HXN6 hybrid locomotives, which can reduce fuel consumption by 30% to 50%, reduce exhaust emission by 40% to 80%, and reduce noise impact time of the diesel engine by more than 80%. the HXN6 hybrid locomotive also has a very strong traction performance. Under the shunting operation condition of a single-locomotive, it can haul more than 10,000 tons of cargo. Also, due to the benefit of cost-effective and efficient transportation of passengers accounts for largest market in 2022 owing to the Several cities are implementing new rail infrastructure projects with the aim of reducing road congestion and providing an affordable means of transportation at an intercity as well as intracity level. Increasing urbanization and the growing demand for increased connectivity, comfort, reliability, and safety will boost the demand for hybrid trains. As of 2022, most of the hybrid train projects or operations are related to the passenger segment, as freight transportation requires powerful trains and hybrid train technologies are still in their initial stage to be able to cater to the freight transport demand. For instance, September 2021, Alstom's Coradia iLint train, the first in the world to be powered by hydrogen is deployed in France for passenger transportation. Considering these developments hybrid train market will provide growth opportunity in near future.
"Increasing demand for rapid transportation and advancement in hybrid technologies will drive the above 200 km/h segment."
The Electric propulsion is principally used for achieving more than 200 km/h speed. Thus, operational trains having more than 200 km/h speed is propelled by electric propulsion and are powered by dual propulsion. Currently, hybrid trains operating at speeds above 200 km/h account for a less share. The consistent advancement in train technologies is expected to push the growth of hybrid trains with a speed of more than 200 km/h in the coming years. The rapid technological developments in the railway industry are encouraging train manufacturers to invest more in R&D, which is driving the hybrid train market.
In-depth interviews were conducted with CEOs, marketing directors, other innovation and technology directors, and executives from various key organizations operating in this market.
-□By Company Type: Tier I - 31%, Tier II - 48%, and OEMs - 21%
-□By Designation: C Level Executives - 35%, Directors - 40%, and Others - 25%
-□By Region: North America - 30%, Europe - 40%, Asia Oceania - 15%, Middle East & Africa - 10%, and RoW - 5%
The hybrid train market comprises major companies such as CRRC (China), Bombardier (Canada), Alstom (France), Siemens (Germany), and Wabtec Corporation (US).
Research Coverage:
The market study covers the hybrid train market size and future growth potential across different segments such as by propulsion type, application, operating speed, battery technology (qualitative), and region. The study also includes an in-depth competitive analysis of the key players in the market, along with their company profiles, key observations related to product and business offerings, recent developments, and key market strategies.

Key Benefits of Buying the Report:
-□The report will help market leaders/new entrants in this market with information on the closest approximations of revenue numbers for the overall hybrid train market and its subsegments.
-□This report will help stakeholders understand the competitive landscape and gain more insights to better position their businesses and plan suitable go-to-market strategies.
-□The report also helps stakeholders understand the pulse of the market and provides them information on key market drivers, restraints, challenges, and opportunities.

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*Details on Business overview, Products offered, Recent developments & MnM View might not be captured in case of unlisted

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