

Tunnel Boring Machine Market Forecast till 2027

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Report description:

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Market Overview

The Tunnel Boring Machine (TBM) Market is an industry that deals with the production and sales of tunnel boring machines. These machines are utilized for excavating tunnels for various purposes, including transportation (roads, railways, and subways), mining, and hydroelectric power plants. TBMs are sizable machines that can penetrate through various soil and rock types, creating tunnels of varying shapes and sizes.

The global TBM market is expected to experience significant growth during the forecast period due to several reasons. One of the primary drivers of this growth is the increasing demand for transportation infrastructure. The construction of new tunnels and the upkeep of existing ones are vital to enhancing transportation connectivity and reducing traffic congestion in urban areas. Additionally, the surge in mining activities and the need for eco-friendly energy sources, such as hydroelectric power, are also fueling market growth.

The TBM market can be categorized based on type, application, and geography. The market is divided into soft ground, hard rock, and mixed ground TBMs based on type. Soft ground TBMs are used for tunneling through soil, while hard rock TBMs are designed for tunneling through rock formations. Mixed ground TBMs are used for tunneling through both soil and rock.

Segment Overview

The segmentation of the tunnel boring machine market by Geology Type includes Soft Ground, Heterogeneous Ground, Hard Rock Ground, and Variable Ground. In 2021, the Heterogeneous Ground segment held the largest market share. The occurrence of heterogeneous ground surfaces is commonly found in areas affected by glaciation, leading to uneven lost ground and rock sections in tunnels. The increasing number of tunneling projects utilizing heterogeneous ground surfaces, especially in Switzerland, is expected to provide lucrative opportunities for market growth.

The market data for tunnel boring machines has been classified by End Users into Metro and Transit, Road Transport, Utilities, Railway Transport, Mining, Oil, Gas, and Others. The Metro and Transit segment accounted for the highest market share in 2021. The market growth for tunnel boring machines is fueled by the rising number of metro transportation projects, as well as the significant investments in infrastructure projects by large metro pipeline companies. SAAS services are being used to control metro tunnelling projects to speed up project completion. The future deployment of automated pods and hyperloops for

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high-speed underground public transportation is expected to further increase the demand for tunnel boring machines.

Regional Analysis

The Asia-Pacific region contributes the most significant revenue share. The region is implementing various measures to support extensive tunneling projects for railways and highways, driven by factors such as fast urbanization, rising population, and robust economic growth. In addition, ongoing metro project developments in India are expected to boost the demand for tunnel boring machines, while several manufacturers in the Asia-Pacific region are focusing on developing advanced machines to enhance market growth.

Major Players

Key players in the market includes Dalian Huarui Heavy Industry Group Co., Ltd, The Robbins Company, Inc., Hitachi Zosen Corporation, China Railway Construction Heavy Industry Co. Ltd., Herrenknecht AG, IHI Corporation, Kawasaki Heavy Industries Ltd., Komatsu Ltd., China Railway Engineering Equipment Group Co., Ltd., and Qinhuangdao Tianye Tolian Heavy Industry Co., Ltd.

COVID 19 Impacts
The global tunnel boring machine market was significantly affected by the COVID-19 pandemic. The pandemic caused major disruptions in the supply chain and manufacturing processes, leading to delays and cancellations of various construction projects worldwide. The closure of manufacturing facilities and restrictions on the movement of goods and people also impacted the market's growth.

However, the market is expected to recover and grow at a moderate rate in the coming years, mainly driven by the increasing demand for tunnel construction projects in emerging economies, such as China and India. These countries have initiated several infrastructure development projects, including the construction of highways, railways, and metros, which require tunnel boring machines.

Moreover, the growing trend of urbanization and the need for efficient and sustainable transportation infrastructure are expected to drive the demand for tunnel boring machines. The development of smart cities and the implementation of various government initiatives for infrastructure development are also anticipated to contribute to market growth.

However, the market's growth may be hindered by factors such as the high cost associated with tunnel boring machines and the availability of alternative construction methods. Additionally, the ongoing COVID-19 pandemic and the uncertain economic conditions may also impact the market's growth in the short term.

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