

Micro-mobility Charging Infrastructure Market Forecasts to 2030 – Global Analysis By Charging Infrastructure Type (Standalone Charging Stations, Portable Charging Solutions, Battery Swapping Stations and Docking Stations), Charging Type, Vehicle Type, Power Source, End User and By Geography

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Abstracts

According to Statistics MRC, the Global Micro-mobility Charging Infrastructure Market is accounted for \$7.0 billion in 2024 and is expected to reach \$26.4 billion by 2030 growing at a CAGR of 24.8% during the forecast period. A network of charging stations and other devices intended to facilitate the recharging of electric micro-mobility vehicles, such as e-scooters, e-bikes, and e-mopeds, is referred to as micro-mobility charging infrastructure. Wireless charging pads, battery swapping devices, and docking stations are all part of this infrastructure. By combining smart-grid technology and renewable energy sources, it facilitates effective energy management, lowers downtime, and encourages sustainable urban mobility, ultimately improving user and fleet operator ease and accessibility.

According to the International Energy Agency (IEA), electric two- and three-wheelers, such as e-scooters and e-bikes, accounted for over 50% of global electric vehicle sales in 2021.

Market Dynamics:

Driver:

Growing adoption of micro-mobility vehicles

The increasing adoption of e-scooters and e-bikes as eco-friendly urban transportation solutions is driving significant growth in the micro-mobility charging infrastructure market. Rising consumer demand for sustainable transportation options, coupled with concerns about air pollution and climate change, has fueled the need for supporting charging networks. Additionally, escalating oil and gas prices, along with growing road congestion in urban areas, are pushing commuters toward micro-mobility solutions. This shift in transportation preferences has created substantial demand for comprehensive charging infrastructure to support these electric vehicles.

Restraint:

Lack of standardization

The lack of standardized charging protocols and interoperability between different charging systems creates compatibility issues and market fragmentation. This incompatibility limits flexibility and convenience for users, potentially discouraging adoption of micro-mobility solutions. Additionally, varying regulatory frameworks across regions pose challenges for market participants, with permitting processes, zoning regulations, and compliance requirements often delaying the implementation of charging stations and increasing administrative burdens. These standardization challenges hinder seamless integration and slow market growth despite increasing demand for micro-mobility solutions.

Opportunity:

Government initiatives and regulations

Supportive government policies and initiatives are creating significant opportunities for the micro-mobility charging infrastructure market. Many governments worldwide are implementing regulations that promote sustainable transportation and allocating resources to bolster charging infrastructure for electric micro-mobility vehicles. These initiatives often include subsidies, tax incentives, and funding for charging station deployment. Strategic partnerships between industry players and governments further amplify the development of charging solutions, creating a dynamic ecosystem that meets rising demand for sustainable urban transportation while addressing environmental concerns and greenhouse gas emissions.

Threat:

Cybersecurity risks

Cybersecurity risks pose a significant threat to market growth. Smart charging stations integrated with payment systems and mobile applications are vulnerable to data breaches, unauthorized access, and potential service disruptions. These vulnerabilities could compromise user data, payment information, and operational functionality of charging networks. Additionally, cyber attacks could damage consumer trust and confidence in micro-mobility charging systems, potentially slowing adoption rates and creating hesitancy among potential users and investors.

Covid-19 Impact:

The COVID-19 pandemic initially disrupted the micro-mobility charging infrastructure market through supply chain challenges and decreased ridership during lockdowns. However, the pandemic ultimately accelerated market growth as cities sought contactless, individual transportation alternatives to crowded public transit. Post-pandemic urban planning increasingly prioritized micro-mobility solutions, with many cities expanding dedicated lanes and charging infrastructure to accommodate growing demand. This shift in transportation preferences created new opportunities for charging infrastructure providers, resulting in increased investments and strategic partnerships to support the expanding micro-mobility ecosystem.

The wired charging segment is expected to be the largest during the forecast period

The wired charging segment is expected to account for the largest market share during the forecast period due to its established technology, reliability, and cost-effectiveness compared to wireless alternatives. This segment benefits from widespread compatibility with various micro-mobility vehicles and simpler implementation in urban environments. The technology's maturity translates to lower installation and maintenance costs, making it attractive for large-scale deployments. Additionally, wired charging stations typically deliver faster charging times and higher efficiency, addressing the operational needs of shared mobility services that require quick turnaround times for their fleets.

The battery swapping stations segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the battery swapping stations segment is predicted to witness

the highest growth rate due to its ability to eliminate charging wait times, significantly enhancing operational efficiency for micro-mobility fleets. This technology allows depleted batteries to be instantly exchanged for fully charged ones, maximizing vehicle availability and utilization rates. Battery swapping stations also address range anxiety concerns while reducing infrastructure pressure in dense urban areas. Additionally, technological advancements in standardized battery designs and automated swapping systems are further accelerating adoption across global markets.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share due to advanced urban planning initiatives, strong technological innovation, and substantial investments in sustainable transportation solutions. The region benefits from a robust ecosystem of micro-mobility service providers and charging infrastructure developers working collaboratively. Supportive regulatory frameworks and environmental policies in major metropolitan areas have accelerated the adoption of electric micro-mobility vehicles, necessitating comprehensive charging networks. Additionally, high consumer awareness and acceptance of shared mobility concepts, coupled with significant private and public funding, have created an environment conducive to market leadership and continued expansion.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR, driven by rapid urbanization, smart city initiatives, and substantial investments in charging networks. Countries like China and India, with their massive populations and increasing urban density, are embracing micro-mobility solutions to address transportation challenges. Governments are actively promoting sustainable transportation alternatives through favorable policies. Moreover, technological advancements and strategic partnerships between local and international players are further accelerating infrastructure development, positioning Asia Pacific at the forefront of the evolving micro-mobility landscape.

Key players in the market

Some of the key players in Micro-mobility Charging Infrastructure Market include ChargePoint, Inc., Swobbee, Bike-energy, Swiftmile, Bikeep, Get Charged, Inc. (Charge), Ducati Energia, Magment GmbH, Perch Mobility, Bike+, FreeWire Technologies, GoTo Global, EVBox, Energica Motor Company and Blink Charging.

Key Developments:

In January 2025, General Motors and ChargePoint recently announced a new partnership that will open 500 of the fastest chargers available on the market, with the first set to open in 2025. The new GM Energy charging locations, the first of which will open in 2025, will be branded GM Energy, and the two companies say the 500 chargers will be located at “strategic locations around the U.S.” – meaning high-traffic areas where a lot of EV drivers will need a quick fill-up. Expect them at highway service stops and busy exits on major interstates.

In January 2025, Oonee and Swobbee have been awarded a US\$3.7m federal grant by the Joint Office of Energy and Transportation to enhance micromobility parking and charging networks in Jersey City, NJ and Minneapolis, MN. The funding will facilitate the construction of at least 20 new stations in Minneapolis and 10 additional stations in Jersey City, expanding the existing network to 17 secure parking and charging locations in the city.

Charging Infrastructure Types Covered:

Standalone Charging Stations

Portable Charging Solutions

Battery Swapping Stations

Docking Stations

Charging Types Covered:

Wired Charging

Wireless Charging

Vehicle Types Covered:

E-Scooters

E-Bikes

E-unicycles

E-Mopeds

E-skateboards

Other Vehicle Types

Power Sources Covered:

Grid-Connected

Solar Powered

Battery Powered (Off-Grid)

End Users Covered:

Commercial Fleets

Residential

Public Spaces

Regions Covered:

North America

US

Canada

Mexico

Europe

Germany

UK

Italy

France

Spain

Rest of Europe

Asia Pacific

Japan

China

India

Australia

New Zealand

South Korea

Rest of Asia Pacific

South America

Argentina

Brazil

Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2022, 2023, 2024, 2026, and 2030
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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