

TÜV Rheinland certifies NIO Power Swap Station



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Certification of fully automated battery swap station of Chinese car manufacturer NIO / Electrical and mechanical safety, structural load bearing, and fire rating in accordance with EU standards and Norway's environmental characteristics

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TÜV Rheinland has certified the power swap station 2.0 of NIO, an electric car manufacturer based in Shanghai, according to requirements of European Union standards and Norway's local climate and other environmental characteristics. As creator of the first power swap station export project for passenger cars in China, NIO will now build up its complete power service system in Norway. This year, NIO's charging map for Europe and first four power swap stations will be up and running, and in 2022 the company will build battery swap stations in five cities in Norway. As part of this project, TÜV Rheinland conducted an audit and certification of the second-generation NIO power swap station in terms of electrical safety, mechanical safety, structural load bearing, and fire rating.

World's first mass-produced fully automated battery swap system

NIO's second-generation power swap station is the world's first mass-produced fully automated battery swap system. With this advanced technology, users do not need to get out of the car, and can start the self-service battery swap with one click in the car. The swap station can provide up to 312 power swaps a day, effectively improving power swap efficiency. The intelligent battery swap system is enabled by software-defined cloud computing. The complete station has a total of 239 sensors and 4 collaborating cloud-computing systems that comprehensively enhance the application of visual recognition technology.

TÜV Rheinland presented the certificate to NIO during the 2021 Shanghai International Charging Pile and Swap Technology and Equipment Exhibition (CPSE). During the ceremony, Shen Fei, Vice President of NIO Power Management, said, "Thanks to TÜV Rheinland for its technical support. To date, all NIO power swap stations, super charging piles, and household charging piles have obtained TÜV Rheinland EU certification and type certification, marking the official entry of NIO Power into overseas markets. European users can also enjoy NIO's 'cool tech' unique charging and swapping to achieve high-efficiency replenishment."

Helping Chinese companies to enter global markets

Li WeiChun, Global Head of Power Electronics Business Segment and General Manager of Greater China Solar & Commercial Products at TÜV Rheinland, said, “NIO has always been committed to providing consumers with safe and reliable service solutions. This cooperation is just the beginning. Next, we will cooperate in-depth through the entire field of charging and battery swapping. TÜV Rheinland’s rich experience and technical advantages in testing and certification help Chinese companies, especially in automotive products, to enter the global market and meet the needs of consumers in various countries.”

TÜV Rheinland has nearly ten years of experience in the field of charging and battery swapping systems, and offers product testing and certification for charging piles, charging stations, pantographs, swap stations, charging cables, charging connectors, and related components. TÜV Rheinland also provides audits and technical evaluations for charging and replacement systems, as well as fully localized services such as charging pile installer training, operator qualification reviews, and on-site installation reviews for vehicle manufacturers and charging operation service providers.

TÜV Rheinland stands for safety and quality in virtually all areas of business and life. Founded almost 150 years ago, the company is one of the world's leading testing service providers with more than 20,000 employees and annual revenues of 2 billion euros. TÜV Rheinland's highly qualified experts test technical systems and products around the world, support innovations in technology and business, train people in numerous professions and certify management systems according to international standards. In doing so, the independent experts generate trust in products as well as processes across global value-adding chains and the flow of commodities. Since 2006, TÜV Rheinland has been a member of the United Nations Global Compact to promote sustainability and combat corruption.
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