

Highlight of Exhibitor| Beijing Ruihai 3D Technology Co., Ltd. Will Attend CWP2026  
Wind Energy Exhibition

Riding on the Wind for a New Journey: The 15th Five-Year Plan, reveal a New  
Blueprint for Wind Power

As China enters the implementation phase of the 15th Five-Year Plan, the national energy system is undergoing profound transformation toward a green, low-carbon, safe, efficient, intensive and intelligent model. As a major clean energy pillar of the new power system, wind power shoulders the core mission of safeguarding national energy security, optimizing the energy mix and achieving the dual carbon goals.

Driven by the intensive development of onshore wind power bases and large-scale expansion of offshore wind farms, China's wind power industry has moved beyond rapid growth and entered a new stage of high-quality development featuring high-precision manufacturing, digital management and full-lifecycle operation and maintenance (O&M). Technological advances in large-capacity, domestically manufactured and intelligent wind turbines have pushed the entire industrial chain to upgrade its quality standard system. 3D digital precision inspection technology has become an essential underlying inspection technology that underpins quality improvement, efficiency gains, operational safety and technological iteration across the wind power sector.

Empowered by the policies of the 15th Five-Year Plan and exhibition platforms, Ruihai 3D brings cutting-edge 3D digital technologies and full-chain intelligent solutions to boost the modernization, digitalization and high-end development of China's wind power industry.





With over a decade of expertise in 3D digital precision measurement, Ruihai 3D has long focused on the digital transformation of high-end equipment manufacturing. To address industry pain points — including oversized wind power components, complex curved surfaces, stringent precision requirements, limitations of traditional inspection methods, difficulties in identifying hidden defects and high on-site operation risks at wind farms — the company has built a full-lifecycle digital technology system covering R&D and design, intelligent manufacturing, factory quality inspection and in-service O&M. It provides robust technological support for lean production, intelligent quality control and safe operation throughout the industry.

Our 3D laser scanners feature four core advantages: millimeter-level ultra-high measurement accuracy, non-contact full-area data acquisition, adaptive matching for complex curved surfaces, and portable & efficient field operation, perfectly adapting to high-end manufacturing and smart O&M scenarios in wind power.

For core components such as wind turbine blades, the scanners conduct full-coverage, high-precision 3D reconstruction of complex curved surfaces, accurately detecting micro cracks, surface dents, shape deviations and other quality defects. This ensures the aerodynamic profile accuracy of blades at the source, and guarantees the power generation efficiency and operational stability of wind turbines. For large load-bearing structural components including tower barrels and hubs, the scanners realize precision detection of overall dimensional and geometric tolerances as well as assembly simulation comparison. This effectively improves component processing consistency and overall assembly accuracy, substantially cuts rework costs, and accelerates the transformation of wind power manufacturing from experience-based production to

data-driven, standardized, precise and intelligent digital production.

Compared with traditional manual inspection, Ruihai 3D's digital solutions break inherent limitations of conventional measurement, eliminate human errors and greatly improve inspection efficiency. All inspection data is traceable, retrievable and comparable. We have established a closed-loop digital workflow: physical data collection → digital modeling → precision verification → defect analysis → iterative optimization. Our solutions fully meet the requirements for high-standard construction and high-reliability O&M of deep-sea wind farms and gigawatt-level onshore wind power bases under the 15th Five-Year Plan, helping the industry build sound digital quality control and intelligent O&M systems.

Forging Ahead with Wind, Empowering Industries via Digital Intelligence. Guided by market demands and driven by technological innovation, Ruihai 3D will continue to deepen its layout in the new energy digital sector and refine full-process 3D digital solutions for wind power.

Against the new industrial landscape of the 15th Five-Year Plan, we will leverage high-precision digital technologies to advance intelligent manufacturing of wind power equipment and ensure safe, efficient operation of wind farms. We strive to help the wind power industry achieve quality improvement, cost reduction, efficiency enhancement and operational safety, and accelerate the establishment of a modern wind power system characterized by high quality, high efficiency, low cost and high reliability. We will keep injecting strong digital momentum into China's green energy transition and the in-depth implementation of the dual carbon strategy.

Founded in 2016 with a registered capital of 10.01 million RMB, Beijing Ruihai 3D Technology Co., Ltd. is a National High-Tech Enterprise, Beijing Specialized, Refined, Differential and Innovative SME, Zhongguancun High-Tech Enterprise and Dual Software Certified Enterprise. The company was listed on the Beijing Equity Exchange in 2019. It owns more than 70 independent intellectual property rights and trademarks, and has maintained ISO 9001 Quality Management System Certification for years.

Boasting profound technological accumulation and abundant project experience, Ruihai 3D serves high-end clients including the Chinese Academy of Sciences, CASIC, key universities and major central state-owned enterprises. The company has delivered a host of benchmark projects, such as Winter Olympic venues, Olympic torches, wind power & power grid facilities, underground pipe galleries, rail transit and cultural relic digitization. Its comprehensive technical strength, project delivery capacity and after-sales service system rank among the top players in the industry.