

CHINA MARVELS

World's biggest wheeled crane breaks barriers

The XCA4000 completes its first lift in Hebei in March, **Liu Yukun** reports



At a 200-megawatt wind farm in Hengshui, Hebei province, the world's largest tonnage wheeled crane XCA4000 completed its first lift in March, lifting a 130-metric-ton nacelle, a 40-ton hub and three 95-meter-long blades weighing 28 tons each, to a height of 162 meters for assembly on the tower.

With a 4,000-ton lifting capacity, the XCA4000 marked the seventh time that Xuzhou Construction Machinery Group, the machine's builder, broke the global record for the largest wheeled crane. The launch of the XCA4000 is significant for the global wind power equipment manufacturing industry as turbines today increasingly adopt larger and heavier models, which require higher lifting capacities and heights while ensuring safety.

The XCA4000 is capable of hoisting 230 tons of equipment to a height of 170 meters. With the adoption of advanced technologies, the XCA4000 also solves problems that were commonly seen in cranes such as reduced lifting performance at high altitudes and limited space beneath turbine lifting hooks, thus enabling a 20-30 percent reduction in time required to install wind turbines and significantly enhancing efficiency in wind power construction projects.

Moreover, the XCA4000 is equipped with a self-developed control system and technologies to ensure safety during operation.

With more than a dozen sensors distributed in the facility, it is able to detect and eliminate potential safety hazards in real time.

According to XCMG, over the past five years, the company has made multiple breakthroughs in the field of high-end manufacturing, including increasing the lifting capacity of the world's largest all-terrain cranes from 1,200 tons to 4,000 tons, expanding the maximum installation height of wind turbines from 100 meters to 170 meters, and producing a series of China's largest equipment in terms of capacity, including 700-ton hydraulic excavators and 35-ton loaders.

Shan Zenghai, chief engineer at XCMG, said the company's all-terrain cranes have undergone technological upgrades and attained a global leading level. The domestic content ratio of the machines has increased from 71 percent to 100 percent, with all key components now made in China.

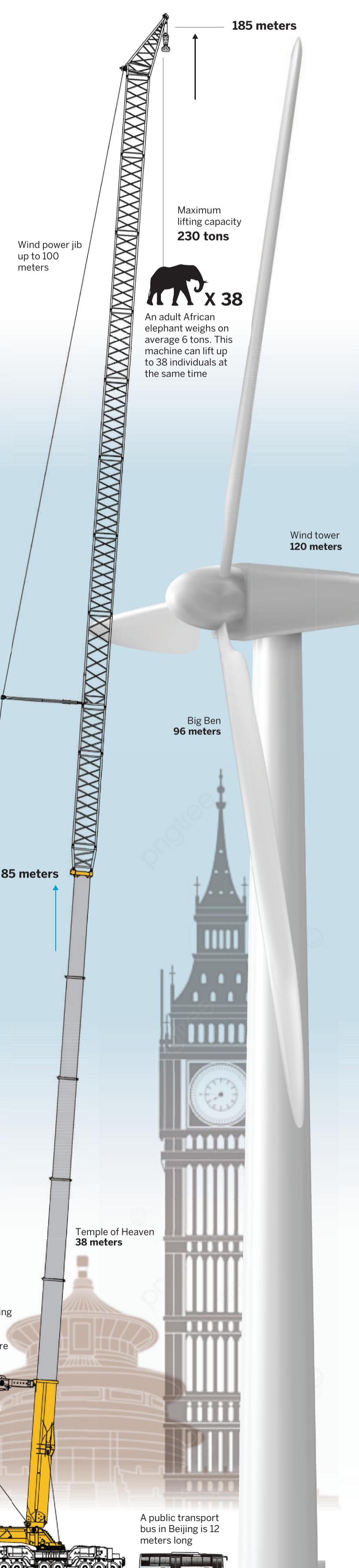
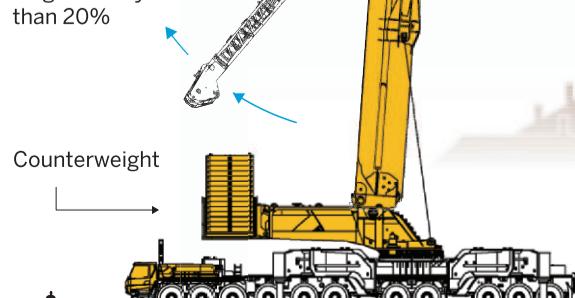
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WORLD'S HEAVIEST WHEELED CRANE

Mega-construction projects such as gigantic wind turbines require special equipment to assemble. To achieve this, impressive machines have been designed such as the XCMG XCA4000, the heaviest wheeled crane in the world, which has been specifically designed for the lifting of wind turbines.

Super lifting arm

The technology of pulling and supporting the boom head of a super long crane reduces the load on the boom head of the super long boom by more than 20%



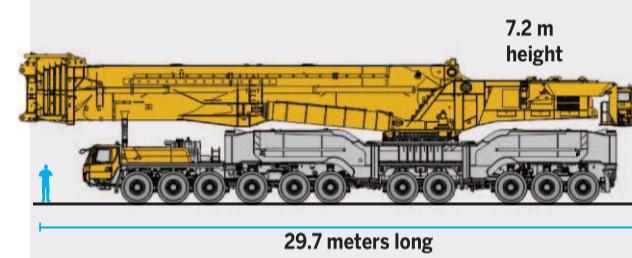
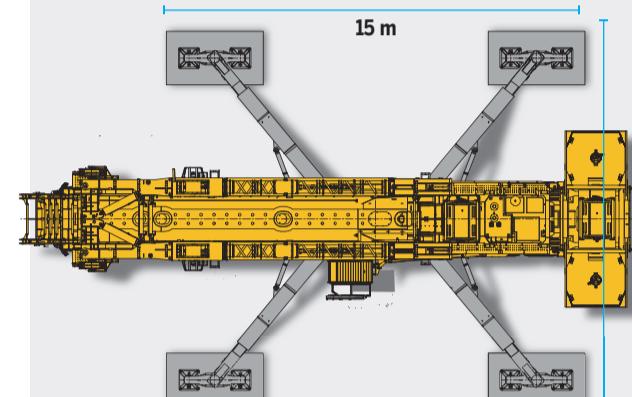
THE LARGEST TONNAGE WHEELED CRANE

With the employment of this large crane, designed specifically for lifting wind turbines, a wind turbine nacelle weighing 135 tons can now be effectively installed in a 30-minute operating window



X-shaped outriggers

Its four outriggers are arranged in an X-shaped, four-point bracket, with a fully extended stabilizer wingspan of 15 x 15 meters



Counterweight

Maximum weight of the counterweight is 340 tons



ASSEMBLING A WIND TOWER

First challenge achieved was to lift a 95-meter-long wind turbine blade

