ENERCON uses the safe and efficient combination of Ematec's RBC-D yoke and Seaside Solution's Automatic Positioning System (APS) to install its rotor blades

Top performance at WindEnergy Hamburg

Ematec's advanced lifting solutions for the wind power industry continue to attract significant interest, with the company returning from Germany with a wealth of new project enquiries. Its innovative RBC-D yokes and collaboration with Seaside Solutions' APS were key highlights.

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Interest in high-end solutions from Ematec is exceptionally high. The specialist supplier of lifting equipment for the wind power industry has returned from the WindEnergy 2024 trade fair in Hamburg with a whole series of project enquiries.

'The response at the trade fair was outstanding. It was once again demonstrated that we are recognised as the leading provider of technologies for single-blade assembly of rotor blades. Our RBC-D generation yokes are still the benchmark for labour safety and efficiency,' says Julian Eberhard, CTO of the company.

Thanks to APS from Seaside Solutions: no more guide ropes are required

There was particularly great interest in an exciting handling upgrade that Ematec's RBC yokes offer combined with Seaside Solution's Automatic Positioning System (APS). Here, two propellers are flange-mounted to the traverse so that guide ropes can be dispensed with when installing the rotor blades. 'Our joint customer ENERCON is already benefiting from this combination on its construction sites, which not only simplifies and speeds up processes but also increases safety,' comments Eberhard.

As ENERCON reports in the current company magazine 'windblatt', the two propellers can compensate for higher wind speeds and are better at stabilising the rotor blades, compared to the previous method of using guide ropes controlled by workers on the ground. This makes it possible to install rotor blades at wind speeds up to 10 m/s. The traditional approach worked at wind speeds up to 8 m/s, depending on the rotor blade type.

Less downtime on the construction site

'On average, using the APS saves us 2.3 working days per construction site, when otherwise installation would have to be put on hold because of weather conditions,' explains Klaas Schumann, ENERCON site engineer.

Eradicating the need for guide ropes has also reduced the working radius required for rotor blade installation. 'In particular, for challenging sites, such as in the forest or in the mountains, near the water or major industrial sites, this new system makes work at the construction site faster, simpler and safer,' explains ENERCON equipment expert Gerhard Olthoff. Without the new system, using guide ropes for stabilising rotor blades and other major components during installation requires 150 metres of space. 'Thanks to the APS, we can offer our customers a safe and effective

Thanks to the APS, we can offer our customers a safe and effective installation.

installation even in challenging sites where this kind of space is not available,' summarises Schumann.

No more risk

For ENERCON, working with the APS does more than just save time and resources. For workers on the site, it also reduces the hazards involved in the use of guide ropes. 'We no longer need constant communication between the three workers who guide and monitor the guide ropes. Two remote control units control RBC and APS,' adds Gerhard Olthoff.

One person controls the process from the ground until the component reaches a certain height; then, control is transferred to a second person in the hub who completes the lifting and installation process. The energy supply is via a redundant system with two power generators. This ensures that even if one generator fails, the component can still be lowered to the ground safely.

There is another benefit of the APS, says Schumann: 'When replacing major components, it is no longer necessary to attach guide ropes to the components up-tower; a time-consuming procedure. Plus, the lifting beam consisting of RBC and APS is gentler on the components because only horizontal forces act on the rotor blades during the hoisting operation.'

Tried and tested in practice

Thanks to the two original systems, ENERCON has already been able to improve and speed up the assembly work in various projects such as Flöthe, Fuchstal, and Liebenau in Germany, and in the large-scale Horizonte project in Chile. Starting in August, 17 of the new systems will gradually become available for blade installation in its projects at challenging sites.

'We are delighted that the APS from Seaside Solutions harmonises so well with the RBC yokes and provides our customer with increased work safety and efficiency,' says Eberhard.

Good response to the Ematec Blade Turner

In Hamburg, the focus was on the revolution in the single-blade assembly of rotor blades and the innovation in rotor blade maintenance and service. Ematec presented a model of a completely new blade-turning device that enables a rotor blade to be pitched around its longitudinal axis on the ground. This allows the blades to be rotated continuously for repairs.

Julian Eberhard

'Here, too, the response was excellent. The first manufacturers are already considering using our innovative system not only on construction sites but also directly in production. We are happy to pursue this exciting approach further,' clarifies Eberhard.

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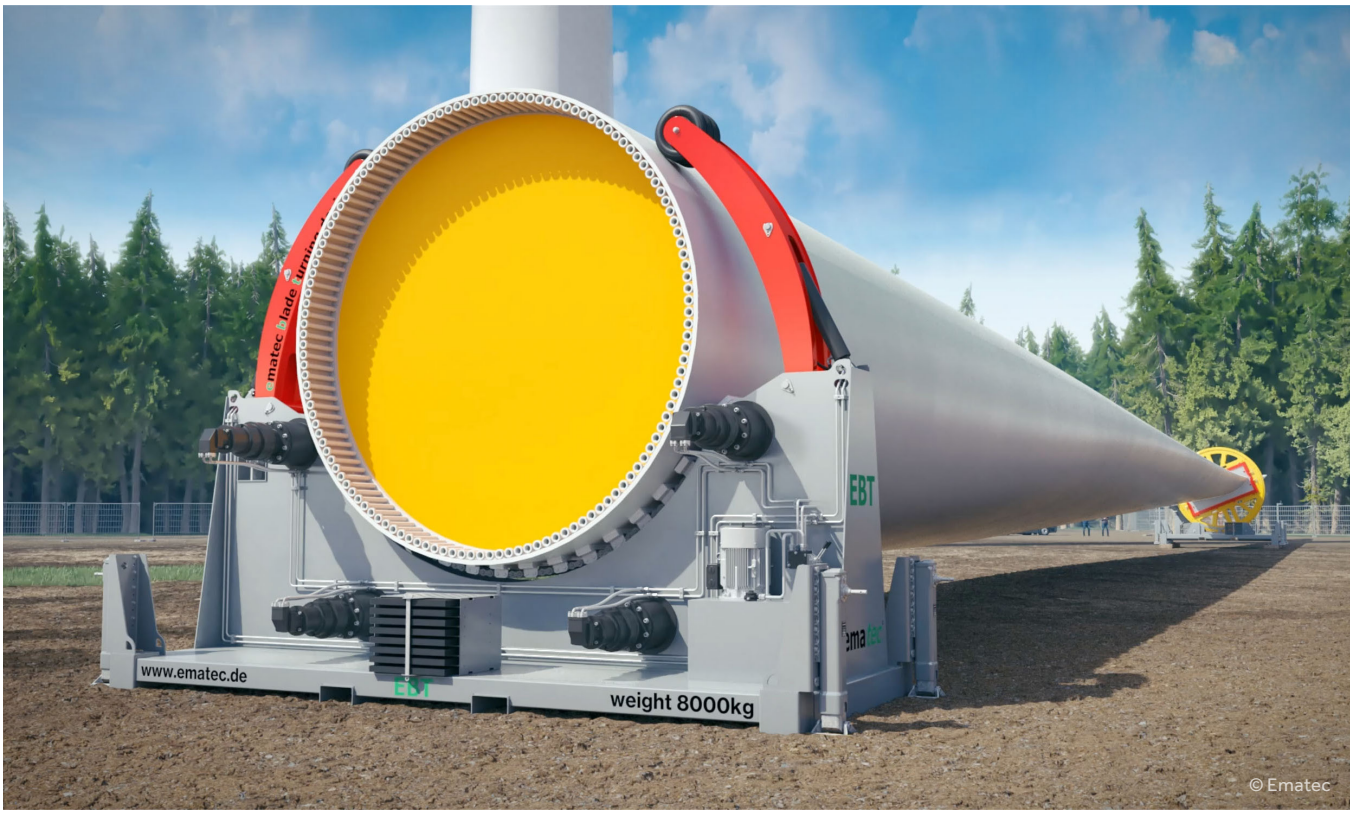

Ematec presented the new EBT blade-turning device at WindEnergy 2024 in Hamburg