LTR 1220 acts as counterweight for a Liebherr LR 1600/2 crawler crane

- Crane contractor Helling successfully uses auxiliary crane as ballast substitute on a 600-tonne crawler crane
- The coupled cranes move to the next site with a 150-meter boom
- Massive time savings and reduction in ballast transport

Ehingen / Donau (Germany) September 2015 – Crane contractor Helling based in Schwäbisch Gmünd in southern Germany provided an object lesson in the perfect use of crane equipment and synergies in large wind farms. A Liebherr LTR 1220 telescopic crawler crane which was at the site anyway for set-up work, was used by Helling as a counterweight for lowering and erecting the large LR 1600/2 crane rather than the usual ballast blocks. If the topography and farmers allow, the smaller crane can also be used to move the large crane to the next turbine.

Markus Helling, Managing Director of Helling GmbH, is not only a graduate engineer, but also a bit of a tinkerer. Because, like many of his fellow contractors, the erection of wind turbines is one of the main parts of his crane service business, he constantly strives to improve procedures in wind farms. Together with the experts from Liebherr, Helling helped to develop the concept for using the 200 tons heavy LTR 1220 as ballast for the main crane. The benefits of this are quite obvious. Firstly it means a massive reduction in set-up times because there is no need to add and remove the suspended ballast. Secondly, "I can save on eight transport units for the ballast, which is only required for the set-up process but not for the hoisting work in between – in other words for erecting and lowering the LR 1600/2 and each time it is moved", says Helling.

His crane is generally used to hoist the top steel tower sections on to the prefabricated concrete towers and then to hoist the actual turbine sections. That was the cases for this job near to the Rhine-Hesse town of Alzey for the erection of a Senvion wind turbine with a hub height of 128 metres. A site report:

After assembling the rotor and completing the system on the previous day, the team from Helling started work at around midday. They started preparations to lower the crawler crane's lattice boom, which, including the 12-metre fixed jib, has an overall length of 150 metres.

Noon: After dismantling the central ballast on the LR 1600/2, the telescopic crawler crane was moved behind the large crane and positioned for use as counter-ballast.

12:30 pm: The LTR 1220 is suspended on the derrick boom and is docked to the pulley head using an adapter on the rear of the 600-tonne crane. The lowering of the enormous lattice boom can begin.

13:45: The main boom is on the ground, the LTR 1220 is detached again.

16:00: The suspended ballast pallet is on the LR 1600/2 and contains some ballast.

16:30: The LTR 1220 has been attached to the lattice boom on the large crane and is holding a load of around 34 tonnes. The large crawler crane manoeuvres out of the site.

17:20: The journey begins. The two cranes drive over the fields. The LTR 1220 follows the large crawler crane with the boom on its hook.

19:10: The cranes have travelled around 1200 metres and arrive at the next site.

22:00: Towering high into the air, the LR 1600/2 is in position for the next day's work.

It normally takes three and a half to four days to move the LR 1600/2 to the next site if the crawler crane has to be dismantled, transported and then erected again. The smart use of the LTR 1220 as a "relocation aid" saves Helling an enormous amount of time.

Caption

liebherr-lr-1600-2-ltr-1220-helling-1.jpg:
The LTR 1220 moves into the position at the rear of the LR 1600/2 and is attached to the derrick boom.

liebherr-lr-1600-2-ltr-1220-helling-2.jpg:
The pulley head is docked to the large crane using an adapter and thus secured.

liebherr-lr-1600-2-ltr-1220-helling-3.jpg:
Company owner Markus Helling (on the right in the photograph) supervises the docking of the smaller telescopic crawler crane closely.

liebherr-lr-1600-2-ltr-1220-helling-4.jpg:
The ballast crane rises off the ground by a barely visible amount whilst the 150 metre main boom is slowly lowered.

liebherr-lr-1600-2-ltr-1220-helling-5.jpg:
Everything at a standstill - job done. The two cranes make their way to the next site.

liebherr-lr-1600-2-ltr-1220-helling-6.jpg:
The LTR 1220 follows in the tracks made by the large crawler crane wherever possible.

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