

# Compact cranes for versatile wind conditions

Taking the heavy lifting out of offshore work is important, not just during the installation phase of larger structures, but with the ongoing maintenance too, looking after the entire lifecycle of the wind farm. With space so often at a premium, having cranes that are suitable for use in compact situations is advantageous and having access to an entire fleet to cover all bases is the ideal.

Quite often, the offshore wind market is defined solely through the use or work of heavy lift cranes. This holds true to some degree when it comes to the 'rough' parts, such as the installation of big monopiles or movement of heavy structures. But it is sometimes forgotten that supporting work during installation and ongoing processes such as on converter platforms, plays a decisive part in the lifecycle of wind farms and wind wheels respectively. The latest generation of Liebherr Ram Luffing cranes (RL) is made for these important aspects.

It is not only the combination of sense and simplicity, but also the benefit to the customer in terms of innovative technology and longevity that makes this crane type so useful for the offshore market. Basically, a solid base column is closely attached to the boom. Controls, features and technology or engineering parts are 'brought inside' the length of the basic structure. With its compact design, limited height and small tail radius, the crane not only works in harsh environments, it can operate in confined spaces too. Its weight-optimized construction with a box boom has a low centre of gravity and is light considering its reached load chart.

## The wind will change the future

A Chinese proverb says, 'When the winds of change blow, some people build walls and others build windmills.' Indeed, we are living in times of climate change and with transformations in the economy and society alike. In years to come, energy from offshore wind will play a major role in energy production.

According to market experts, the installed capacity will be more than sixfold in the global offshore wind market and the individual size of wind turbines is predicted to grow to up to 20 megawatts until the end of this decade. Thus, an offshore wind farm with 80 turbines can cover the electricity consumption of 400,000 households. Ultimately, the time is now to be prepared for the important role of offshore wind.

Like other Liebherr cranes, the RL can be fully assembled and prepared when carried on the vessel, so units are functionally ready immediately at their offshore destination. Since they are compact as well as versatile, they can be used perfectly on unmanned platforms, floating storage vessels or installations.

This smart use of space in addition to relative independence in functionality becomes





especially interesting in a growing market, which may have more platforms but limited personnel. Regarding the individual platform, deck management will be important. Possessing an instrument that can interact in any space and be placed individually offers a remarkable advantage.

#### Raise with less space

The genuine advantage for customers is the compact design of the RL. In a way, it is reduced to the optimum, with a lot of power in confined space as the minimal overall height is combined with a tail radius of less than 3 metres.

This demonstrates the obvious advantages of the RL in terms of deck management being a decisive cost factor. Despite its compact design, there is still enough space on an RL crane. Electricity and engine are 'stored' inside the base column, with plenty of room to move inside. And there is space on the crane thanks to additional platforms at various heights of the crane, making it possible to move around and giving space for proper maintenance work.

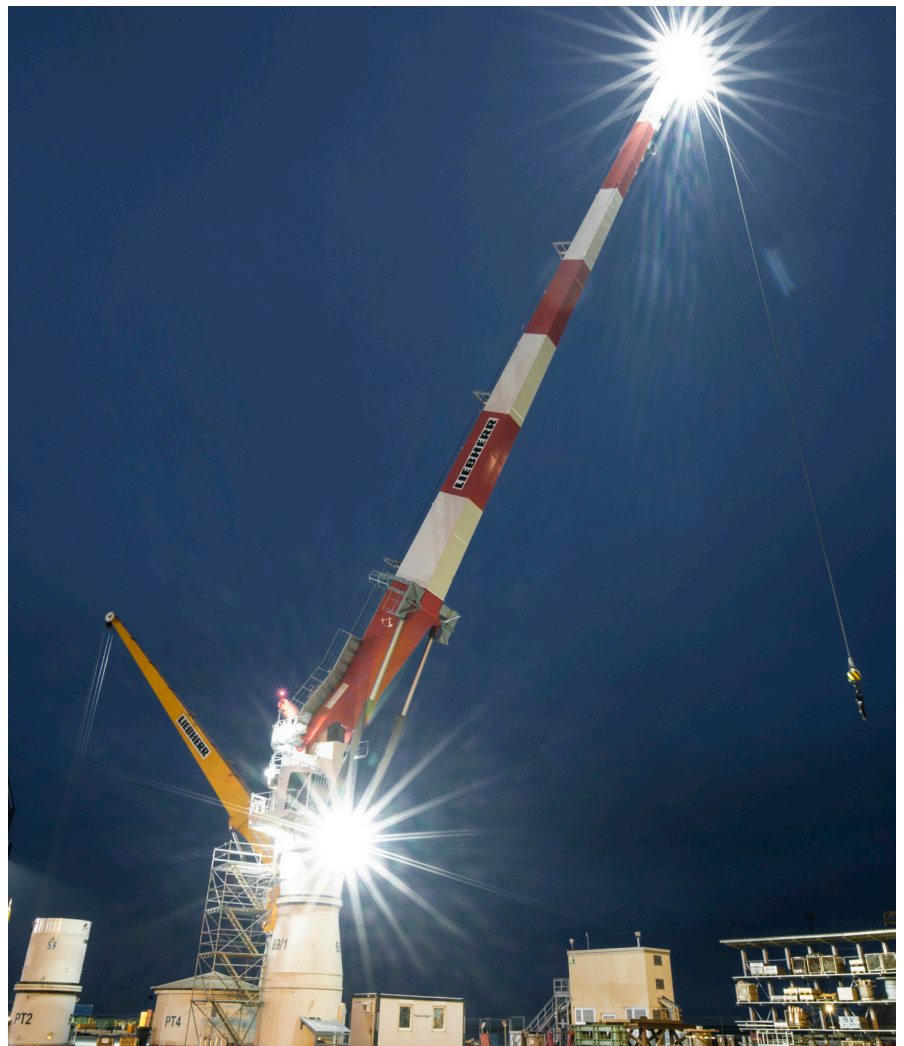
'For platform operators, weight and space requirements for equipment are key cost elements. Any reduction ensures savings, which is why Liebherr's RL crane is the number one choice. It is lightweight, reliable and flexible in terms of positioning. In addition, our crane operators are delighted with the ease of maintenance and sensitive crane control,' explains Steve Haro, head of operations at Navtech Marine.

#### Numerous advantages in the field

On both fixed and floating offshore installations, and nowadays to a growing extent in the wind power industry, RL cranes are mainly used for maintenance and supply work, offering several advantages.

Firstly, it is easy to keep them up and working, with little in the way of maintenance needed because they are simple to access so elements can easily be reached or handled.

Another benefit is that the winches have been relocated to the boom so handling the crane is easier and safer, because rope lengths do not need adjusting during luffing.





The use of cylinders also means that luffing requires no maintenance.

Secondly, the RL can be equipped with Liebherr Intelligent Maintenance (LiMain) enabling maintenance to be carried out remotely. The foundation of LiMain is its modular system architecture consisting of four modules: Automatic Greasing, Condition Monitoring, Predictive Maintenance and Remote Maintenance Cycle. The given package enables operators to determine the scope of intelligent maintenance to meet their particular needs. It is a fully digital, semi-automatic and remote maintenance system.

The system can result in up to 75% less mobilisation and up to 50 fewer man-days on platforms, enabling platform owners to make big savings on resources, whether personnel, material or transport. This is a winning combination of tool plus crane, both representing ideal solutions for platform environments within the field of offshore wind.

Thirdly, Liebherr cranes are taken care of, regardless of their location, with more than 50,000 original spare parts available as part of an ongoing service. Service engineers are usually on site within 24 hours, globally, as required.

Lastly, the company's experience in this field should by no means be underestimated. Reliability is of utmost importance, especially when engineers need to trust that the machinery works properly and end users need to trust that the energy produced will find its way to their home.

Within the RL series, hundreds of units have been built and successfully proven their capacities within the market. This

showcases a trusted product, which has been subject to all kinds of different scenarios before. In addition, there are four RL cranes in the range, from the RL 900 with a maximum lifting capacity of 30 tonnes up to the RL 4600 with a maximum lifting capacity of 100 tonnes. The wide RL portfolio of cranes can individually tackle a specific problem, with the larger cranes focusing on heavy tasks.

#### Experience and range: surgical equipment for every offshore wind operation

Liebherr offers a broad proposition in the offshore wind sector, with 70 years of experience in various fields. The company

offers the entire package for different tasks. When monopiles arrive at port, Liebherr is the life cycle companion of offshore wind installations from day one, taking care of project-specific adjustments and suggesting solutions.

Notably, it also works in surrounding fields such as building key components, producing high-tech concrete and various types of material handling machines, within the market. Liebherr has equipped more than 15,000 wind turbines with components, with a product spectrum ranging from components for 800 kW turbines to solutions for multi-megawatt turbines used in offshore wind parks.

This striking variability and versatility gives the company an edge in tackling any assignment. With the Heavy Lift Crane (HLC), Crane around the Leg (CAL) and the wide range of Board Offshore Crane (BOS), the company has the capacity to heavy lift even the most complex of projects, with offshore heavy-duty cranes having load capacities of up to 5,000 tonnes.

Finding efficient solutions inside a smart, project-centred task is key to success. The crane is adapted according to the requirements of ship, load and platform. Thus, it is helpful that Liebherr constructs cranes, however, it also has experience in the field, its own technical solutions and applications combined with 24/7 customer service. Moreover, it has highly efficient 'smaller' cranes which play a decisive role in the offshore wind market, particularly in terms of maintenance, supply works and the general life cycle of platforms. One of them, the Ram Luffing crane, is ensuring clever leadership within the offshore wind market.

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