



## Skilled manoeuvres

The renewables market, particularly wind, is a key sector for ALE. Building on experience in the power sector, they have used their knowledge and expertise to develop smarter solutions to the challenges created by the increasing heights of wind turbines and associated components.

In relation to the on-shore wind energy market, ALE offers a bespoke Transport, Crane and Installation (TCI) package for the wind energy sector. The transportation phases of projects include route assessments, liaising with local authorities, providing specialist transportation equipment and facilitating the removal and replacement of any street furniture or structures that may obstruct the route.

“We own a fleet of specialised equipment that is specifically used for projects in this sector, such as ` blade trailers and low profile wind tower adapters. Our qualified electrical and mechanical installation teams have the knowledge and experience to provide the most efficient solution, on a project by project basis.”

“We can also provide our clients with port handling services. This includes equipment inspection, damage assessment, storage facilities and loading or reloading of equipment to specialist transport.”

“We offer different types of cranes for the erection of wind turbine components. The LG1750 combines the benefits of a crawler crane, it is high capacity and has the possibility to change configurations, and



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those of a truck mounted crane. This crane can lift heavy nacelles on top of tall towers, but with a reduced relocation time, as the superstructure and back mast (when present) don't need to be disassembled," said Fabio Garcia, Business Development Manager – Renewable Energy.

"We also use the LR11350, a large crawler crane with 1,350t capacity, which can comfortably lift any kind of Wind Turbine Generator (WTG) component at any height (73t /190m lifting height). The LR11350 can be relocated fully erected straight to the next hardstand, provided that the site roads are wide enough and compacted. For the transportation of different WTG components, we mainly use a 4 axle extendable trailer for blades, an 8 axle extendable trailer for tower sections and a 6 axle Goldhofer for nacelles. For other components we use normally Step Deck trailers. This combination gives us flexibility and a very good performance ratio."

ALE operates wind projects across the world. "During the recent months, our team has been performing mainly in Thailand and South Africa. In Thailand, we mainly used an LG1750 crane, lifting 30 WTG up to 120m hub height. Our scope included receiving the components in Laem Chabang Port, transport to site (450km) and lifting major components including tower sections (65t), nacelles (85t) and blades (13.5t / 59m). The job lasted six months," said Fabio Garcia. "In South Africa, our scope was mainly related to works in Harbour (Couga Port) and transport to sites. One of the jobs involved a distance of 1,300km. This was a big challenge in terms of project management and organisation of the different deliveries."

As the industry changes and the clients' need develop, ALE needs to react to this: "The increasing sizes of WTG is obviously a challenge for the whole heavy transport and heavy lifting industry. Components are getting heavier and towers higher, so we need to adapt ourselves to the new

generation of wind turbines. Execution time is also a critical issue in any project and, besides the pure technical challenge, there is a project management challenge where all the pieces have to fit to deliver a good performance.

"The increasing sizes have affected the way we perform projects, from the road surveys to the calculation of lifting activities, the way we do it is more professional and specialised. On the other hand, we are seeing an increase of new wind developing markets/countries, where the sector is not mature at all and the challenge is therefore even higher," Fabio continued.

"As one of the leading companies in our sector, ALE is always looking for new solutions and equipment that can help us and our customers to fulfil the market requirements. ALE is well known in the industry for our Innovation Series, in many different sectors. Specifically, for wind, we are updating our main crane equipment to be in line with the new challenges in the market."

Recently, ALE announced that their wind turbine electromechanical installation technicians have been trained according to the standards of the Global Wind Organisation (GWO), an institution that develops training standards in the wind industry. ALE's dedicated wind technicians attended a specific training course including different training modules, as provided by a certified GWO Training institution.

"The wind energy sector is a major industry for ALE and our priority is to invest in training to ensure our technicians are always developing and regularly trained to best serve our clients," said Carlos Moreno, Commercial Manager – Wind Energy Installation.

"As clients increasingly expect higher quality and safer standards across wind projects worldwide, we wanted all of our technicians to be fully trained and certified to the GWO training standards so they



have the assurance that the same standards will be applied globally. By achieving this qualification, it demonstrates our technicians' capabilities and consistency when working on all wind installation projects."

Similarly, ALE are also involved in offshore wind projects. In the UK, ALE secured a four-year Crane Framework Agreement with Siemens for the supply and deployment of cranes, specialised transport equipment and personnel.

The project covers Siemens' harbour-based offshore wind sites in the UK and Germany and the heavy lifting, transport and pre-assembly operations will take place between 2016-19. The operations involve

blade export or pre-assembly at Siemens' new facilities in Hull.

ALE equipment and staff are undertaking the handling and pre-assembly of imported towers, nacelles, weighing up to 360t, and blades, measuring up to 75m long, to be used on the Dudgeon offshore wind park, which will comprise of 67 Siemens' 6 MW offshore wind turbines and an overall capacity of 402 MW of power to supply more than 410,000 UK households.

In January 2017, ALE transported a Siemens wind turbine blade, measuring 75m long, as part of the Hull UK City of Culture programme. ALE transported the wind blade under the cover of darkness on SPMTs and bolsters from Siemens' production facility,

3.5 miles away, through winding city streets to Queen Victoria Square.

Once in position, it was mounted on specially-constructed supports. At the highest point it is 5.5m from the ground - allowing double-decker buses to pass under the tip of the blade. It is believed to be the first time such a huge industrial structure has been manoeuvred into a city centre, to be displayed as a temporary art installation.

The installation is part of its contribution to the cultural and artistic programme. This was instrumental for the artwork, 'Blade' by multi-media artist Nayan Kulkarni, who reinterpreted the 75m long wind turbine blade as a monumental sculpture installed across the historic Queen Victoria Square.

This jaw-dropping contemporary art installation is the first artwork in Look Up, a year-long series of artist interventions in public spaces, commissioned by Hull UK City of Culture 2017, which aim to make people look at and experience the city in new ways. Moving and installing the blade has involved over a year of planning, also involving Hull City Council, project consulting engineers Arup and the Police.

Dave Smith, ALE Projects Operational Manager, said: "This was a unique challenge. We have never before moved a structure of this size into a city centre along such narrow streets. We're delighted to have been entrusted by Siemens to take the blade on its journey into the city centre and to have lifted it into position where it took pride of place during the City of Culture celebrations."

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