BMS // 2019

MUCH MORE THAN JUST THE RIGHT EQUIPMENT

Welcome to yet another issue of the BMS Group magazine. Once more we can look back at a quite busy year with a significant number of projects in still more countries around the globe. You will find a selection of our jobs in the magazine while others are so fresh – for instance on new markets like Spain and Russia – that we have not had sufficient time to present them properly in an article of their own.

For the last couple of years, the BMS Group has included the haulage company Torben Rafn. This enables us to help our customers with the transportation of construction machinery, crawler cranes, transformers, and other heavy industrial goods. However, during 2018 transportation has had a somewhat different meaning to us as well, as we have been involved in jobs such as the installation of a pedestrian bridge in Copenhagen Airport in Denmark as well as the replacement of a cableway in Norway.

The last 12 months have also included more untraditional tasks such as the moving of eight spheres carved in rock for the Louisiana Museum of Modern Art in Denmark as well as the inspection of Victoria Tower, an important part of the Palace of Westminster in London, England.

For quite a number of years, assignments within the wind power industry have been a core activity for the BMS Group. In 2018 we have worked on our traditional markets – for instance helping a leading provider of one-stop solutions for the installation and service of onshore and offshore wind turbines at a wind park in Norway and assisting Shanghai-based Envision Energy with the replacement of a wind turbine generator in Denmark. Another job on a well-known market was the completion of jackets for offshore wind power installations for the Danish energy company Ørsted A/S. This took place in Cuxhaven, Germany. And we assisted MHI Vestas Offshore Wind with the shipment of wind turbine blades from the production facilities in South-eastern Denmark.

Two thousand eighteen also brought new wind energy markets, like Australia. At Badgingarra Wind Farm we helped erect Siemens wind turbines able to generate power equivalent to what is required for more than 115,000. And at Lincoln Gab Wind Farm we have handled 35 Senvion wind turbines.

The assignment at Badgingarra was carried out by a team of BMS employees aged from 26 to 50+ and with passports from Denmark, South Africa, Sweden, United Kingdom, and Poland.

If you want highly qualified employees, it is necessary to contribute to the continuous education of people who can take over when the more experienced ones proceed to other employment or retire. This is a fundamental thought at the BMS Group. Everywhere in the group, there is a considerable need for well-qualified employees, and therefore it is only natural that each of our companies chooses to involve themselves in the on-going training of employees who have insight into the very diverse areas of work found in the companies of the BMS Group.

In many cases it might sound like – and maybe it is – a cliché, but to the BMS Group the most critical resource is our employees. Therefore we invest a great deal in developing the skills of the people within our companies. This enables us – as has been the case in 2018 – to recruit internally when we are in need of for instance employees for new management positions.

Another area close to the heart of the BMS Group is the safety in all things we do. Every day, we perform a wide range of highly specialised tasks, each requiring precautions to minimise the risk of incidents and accidents. Therefore the individual employees are continuously trained, and they are regularly monitored to ensure that everyone complies with our safety rules and regulations.

We hope that you will enjoy reading about some of the BMS Group assignments we have selected for this magazine. We look forward to doing business with you.

Jens Enggaard
CEO

In 2018 the BMS Group rose one more place to no. 15 on the 'International Cranes and Specialized Transport IC50', a listing of the world's top crane companies using the total load moment rating in tons-metres of the cranes in the company's fleet. And on the European continent, we are now in the top three.

FACTS

PROACTIVITY A CORNERSTONE OF HEALTH, SAFETY, ENVIRONMENT, AND QUALITY

Every day, the BMS Group performs a range of highly specialised tasks, each requiring precautions to minimise the risk of incidents and accidents.

This is why employees in the individual company in the BMS Group are continuously trained through internal e-learning courses. Just as they are at the end of the working day or in the morning instructed in the upcoming tasks. Furthermore, employees are regularly monitored to ensure that they comply with the safety rules and regulations.

Even though a great deal is done to train for instance the crane operators, it is always the individual employee who makes the final decision when any given job is to be carried out. The BMS Group neither can nor should monitor all employees all the time, as it is necessary to be able to trust that he or she can solve the task correctly. Of course, there is a backup function that can be contacted should help be needed.

Proactivity is a cornerstone of the BMS Group's Health, Safety, Environment, and Quality (HSEQ) system. This system is based on an excellent HSEQ culture that permeates all parts of the group.

Proactivity includes, among other things, an app-based reporting system for accidents, observations, deviations, customer satisfaction, and other vital issues. Besides, the e-learning system is made available to subcontractors and customers – and there is a continuous follow-up on the employees' reports of incidents. Furthermore, the BMS Group's Head of HSEQ visits both BMS companies and construction sites.

The proactive setting, also expressed through early toolbox meetings, end-of-the-day meetings and monthly focus areas based on dynamic reporting, helps capture things at an early stage to avoid the more severe events.

A great many of the major customers of the BMS Group appreciate that their subcontractors have a good reporting system, allowing the entire organisation to learn from incidents and accidents. The BMS Group has chosen to take things a step further and attach tools so that the system can be useful in various other contexts. For example, with the BMS Group app comes a database, where all records from the app are stored and can be sent for further processing if required. The tools in the app and database include incident/accident reporting as well as checklists for safety inspections, toolbox meetings, pre-lift, and vehicle/plant as well as peer-by-peer training and various site inspections.

In 1855 Alexander Brun, an officer and Master of the Royal Hunt, built the country house that was later to be converted into a museum. One after the other he married three women who were all named Louise. No wonder that he chose the name Louisiana for his home – and that Mr Jensen took it over when opening his museum.

FACTS

FROM INNER WORLDS TO OUTER SPACE

// MOBILE AND TRUCK MOUNTED CRANE
// ARTWORK
// DENMARK

Louisiana Museum of Modern Art some 40 kilometres north of the Danish capital Copenhagen has a special place in the heart of many Danes. That has to do with the fact that when the museum opened in 1958, the founder, Knud W. Jensen, wanted to create a museum where his countrymen could see modern art, which until then really had no place in Danish museums. In the following decades, through his intensive exhibition activities, Mr Jensen helped teach the Danish people to look at art.

The founder intended for Louisiana to be a home for modern Danish art. But after only a few years Mr Jensen changed course, and instead of being a collection of art from his home country, Louisiana became an international museum with many internationally renowned works.

If not before then for sure now Louisiana is also very close at heart for a number of people from BMS Copenhagen. The reason for this is that Louisiana needed help from the outside for the installation of the Polish-German artist Alicja Kwade's work "Pars Pro Toto" consisting of eight spheres carved in rock. They were to be placed on the lawn in the museum garden, naturally according closely to the artist's directions – and in compliance with strict safety regulations. The spheres are part of the exhibition "The Moon – From Inner Worlds to Outer Space".

Initially, BMS Copenhagen rigged a 500-tons mobile crane with 165 tons of ballast and a 49 metres tilt-able tip. Then eight iron plates were laid out in the garden – and finally a 110 tons-meter truck-mounted crane with a weight of 26 tons and an outreach of 50 metres was lifted onto the plates.

This truck-mounted crane was subsequently tasked with lifting an additional 30 iron plates, so it was possible to drive further into the garden. As these preparations were well over, the 500-tons mobile crane lifted the eight spheres unto the truck-mounted crane, which could then transport them to their destination.

When the spheres had come into place, it was just for BMS Copenhagen to complete most of the process again, only in reverse order. Everything went as it should, so the work of art was in place and the garden back to its normal state in time for the opening of the exhibition.

Over the years Louisiana has achieved a standing as one of the world's most respected exhibition venues, able to attract exhibitions and artists at a level that few other museums can match.

MEN AT WORK DOWN UNDER

After the European discovery of Australia by Dutch explorers in 1606 the eastern half of the continent was claimed by Great Britain 164 years later and initially settled through penal transportation from 1788.

// MOBILE CRANE
// ONSHORE WIND
// AUSTRALIA

In the perspective of the BMS Group, 2018 can be added to this history, as this was the year when its first project in Australia began.

About 200 km north of Perth and 60 km from the west coast of Australia lays the small town of Badgingarra. The place owes its name to a Noongar aboriginal language word meaning "Water by the manna gums". Today, Badgingarra is best known for its primary school, tavern, post office, roadhouse, and community centre – but soon 37 wind turbines will be a landmark for the Badgingarra area. This is crew and equipment from BMS Heavy Cranes has been working.

The Badgingarra Wind Farm – consisting of Siemens 3.6 MW wind turbines with a hub height of 85 metres and a tip height of 150 metres – will generate power equivalent to what is required for more than 115,000 homes.

Furthermore, the turbines at Badgingarra will have the ability to save more than 420,000 tons of greenhouse gas emissions on an annual basis. Also, due to the creation of local employment opportunities and businesses stimulation the wind farm will positively impact the residents of surrounding local towns and communities.
The assignment at Badgingarra Wind Farm has been handled by a team of BMS employees aged from 26 to 50+ and with passports from Denmark, South Africa, Sweden, United Kingdom, and Poland. Just after a few hours, the team played very well together, and the tasks were resolved in the best way in terms of quality, time and safety. This could be done because each employee invested 100 per cent of his ability to create a good result as well as good interaction with the colleagues. And because members of the team were very excited about being involved in a project outside Europe.

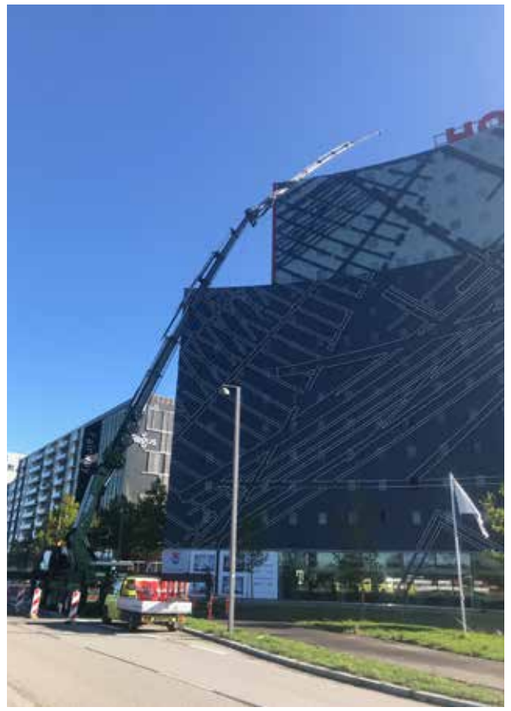
The Badgingarra project was handled with an LG1750 SX crane, which Liebherr has upgraded for the purpose. The crane can be mounted with a larger boom, which happens when it is moved to BMS Heavy Cranes' second project in Australia. In Lincoln Gab Wind Farm, 35 – and potentially more – 3.6MW Senvion wind turbines with a height of 180 metres are being erected. This project is located approximately 15 kilometres west of Port Augusta – a few thousand kilometres east of Badgingarra.

More tourists coming to Denmark and increased joy of travelling among Danes has resulted in an average of almost 86,000 passengers per day through the terminals of Copenhagen Airport. In recent years, the airport has succeeded in attracting a number of new long-haul direct routes, for example to the USA, India, and China.

FACTS

ON HIGHER GROUND

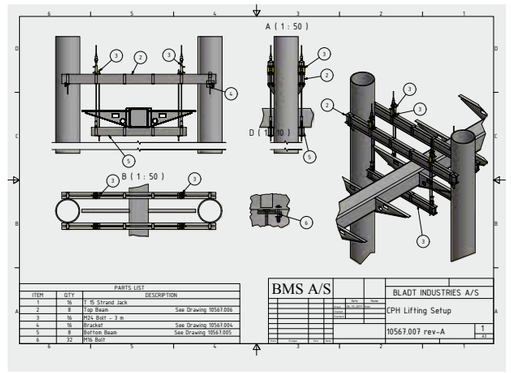
Like many international airports the one in Copenhagen, Denmark is almost constantly undergoing improvements and expansions.



// JACKING AND SKIDDING
// PEDESTRIAN BRIDGE
// DENMARK

One of the most recent developments in Copenhagen Airport has been the installation of a 100 metres long and five metres wide pedestrian bridge, which serves as a direct connection between the metro of the Danish capital and the security control above Terminal 3. BMS Kruse helped bring the bridge into place.

The purpose has been to ensure more space for all travellers on the floor level of Copenhagen Airport's busy Terminal 3 – and this has been done by establishing a pedestrian bridge on the first floor level in the middle of the terminal. The bridge also serves as a shortcut for passengers going from the metro to Terminal 2 to check in their luggage.



Denmark's longest indoor walkway is a crucial element in a significant rebuilding and expansion of the terminal, which is a project of about 33.5 million EUR (250 million DKK).

In particular, the challenge has been to establish the bridge while the airport is in operation –without annoying the passengers too much. The bridge manufacturer, which is the Danish steel contractor Bladt Industries A/S, chose BMS Kruse to handle the critical task.

Despite the weight of the steel bridge of about 100 tons, the maximum permissible floor load was a mere 500 kg per square metre, so BMS Kruse had to design special rigger skates for the job. The BMS specialists chose to raise the sections of the footbridge using wire lifters – and they developed both lifting beams and support brackets in order to use the existing steel construction of the terminal as support.

However, during the process, it turned out that several sections of the footbridge had a level difference of up to two metres, which meant that new supports for the rigger skates had to be manufactured in a hurry so that work was not delayed. It also proved necessary with additional supports, which required further redesign, but regardless of the obstacles, the task was carried out to Copenhagen Airport's satisfaction.

IN HER MAJESTY'S SERVICE

// TRUCK MOUNTED LIFT
// BUILDING REPAIR WORK
// ENGLAND

For almost 160 years the Victoria Tower has been standing at the southwest end of the Palace of Westminster in London, England. With its 98.5 metres it is slightly taller than the more famous sister Elizabeth Tower that was formerly known as the Clock Tower – and popularly referred to as Big Ben – at the north end of the palace.

Close to 16 decades does of course not pass unnoticed, and in April 2018 a large piece of masonry from a stone angel that sits near the top of Victoria Tower broke away and fell to the ground. Due to the high volume of pedestrians walking past the Palace of Westminster each day it was necessary to act fast and inspect the stonework to ensure nothing like this would happen again.

Therefore DBR Limited – a company specialised in conserving England's built heritage – commissioned a 103-metres platform from the BMS Lift Division so the stonework on Victoria Tower could be thoroughly inspected.

First of all the BMS Lift Division carried out a site survey the week prior to the job itself to make sure the 103-metres platform would be suitable. Furthermore, the specialists from BMS advised of any street furniture that needed to be removed as well as recommended that additional crane mats should be used in conjunction with the original outrigger boards to reduce point loadings on site.

Due to the Victoria Tower measuring almost 100 metres in height the BMS platform was the only one able to get the people from DBR Limited to where they needed to be. Working at full height and full outreach the platform enabled them to assess aspects of the building, which in the past have only been accessible with costly and time-consuming scaffolding solutions.

As the crew from DBR Limited decided to inspect all elevations of the tower the BMS Lift Division was on site for two weeks with the 103-metres platform.

Safety is always a crucial matter – not least when working at more than 100 metres above street level. Until now, the major lift solutions have not been approved for use at wind speeds of more than 12 metres per second – equivalent to force 6 on the Beaufort scale. However, together with Palfinger AG the BMS Group has developed a lift version authorised to operate at up to 20.8 metres per second, corresponding to force 9 or 'severe gale' – that is, in weather where roof tiles loosen and branches break off.

The tower was originally named the King's Tower after as the fire that destroyed the old Palace of Westminster occurred during the reign of King William IV. However, in 1897 it was renamed as the Victoria Tower in tribute to Queen Victoria in her Diamond Jubilee year.

FACTS

SCULPTURE FOR THE CHILDREN

No tasks are the same, but in between, there is one that leaves a quite special impression. This applies, for example, to BMS Aalborg's lift of the 900 kg heavy and one-meter high sculpture Cocoon, that was to be installed in an institution's sense garden.

// TRUCK MOUNTED CRANE
// ARTWORK
// DENMARK

It is, however, no ordinary institution, but a special children's home for children and adolescents with significant and permanently reduced physical and/or mental functioning.

The sense garden includes beds with plants that provide plenty of opportunities for scent and taste experiences, as well as toys to play with or watch as they move in the wind. In addition, there is a sense tunnel in which the kids can have a different sense of sensation under the open sky. And now also a large sculpture in bronze.

It is the Danish bronze caster Carsten Hansen, who has created Cocoon. Due to its size, a special crane was needed to lift the sculpture into the sensory garden. BMS Aalborg carried out the job, as the company had shortly before purchased a truck-mounted crane perfectly fitted for this purpose. The crane is a Hiab X-HiPro 1058 E-8 with a 150X-6 jib. This equipment, which is Hiab's largest, can lift 900 kg at 32 metres, while it can handle more than 1,800 kg at 23 metres.

The special children's home Højbjerghus is located in Støvring about 30 kilometres south of the BMS Group headquarter in Nørresundby, Denmark. The institution, currently having eight permanent residents and two on relieving stay, was given the bronze sculpture by the Flemming Christensen Foundation and the company SAWO A/S, Northern Europe's largest supplier of cargo handling equipment.

CABLEWAY TO THE TOP IN NORWAY

The north Italian company Leitner AG, which already built its first cable car for passenger transport in 1908, specialises in transporting winter sports enthusiasts up to the mountains, solving traffic problems in large cities, and making leisure facilities even more attractive through gondola lifts.

FACTS

Voss, often referred to as the winter capital of Fjord-Norway, has 40 kilometres of alpine slopes with challenges for all ages and levels – including skiing in the World Cup class. The new cableway will consist of up to 13 Pininfarina "Symphony" gondolas capable of carrying roughly 1,500 persons per hour to the Hangurstoppen (810 metres) in less than seven minutes.

// MOBILE CRANE
// INFRASTRUCTURE
// NORWAY

Leitner AG was contacted, as the city of Voss – in the middle of the Norwegian fjordland – was to find a replacement for the cableway Hangursbanen. This cableway, established in 1963, transported lots of skiers to and from the ski areas north of Voss. The Hangursbanen, which was also in operation during summertime, developed into a central part of the city's infrastructure, and there was no doubt that a new cableway should be established when the original one closed in 2015.

By the end of 2017, Kranringen AS – the Norwegian part of the BMS Group – was asked to present a proposal for of the crane operation in connection with the establishment of the new Hangursbanen. The proprietors were pleased with Kranringen AS's recommendations, for example, to lift close to and across the railroad, which has significant traffic 24 hours a day. However, Bane NOR, which is the state-owned company responsible for the Norwegian national railway infrastructure, had reservations and new calculations had to be made.

Subsequently, Kranringen AS has used a 130-tons mobile crane on the mountainside to mount the new supports for the cableway, while the top of the mountain was used for installing the top station. On the lower station, Kranringen AS used a 220-tons mobile crane.

The part of the assembly work that crossed the railroad was carried out at night, so the train traffic was disturbed as little as possible.

The penultimate part of the work in Voss included the construction of a restaurant in connection with the top station. The project has to be completed for the summer of 2019 – and before that, the final task for Kranringen AS is to get the 130 tons mobile crane safely down from the mountain when the snow is gone.

The Liebherr LTM 1350-6.1 sets standards in the 6-axle mobile crane class with outstanding load capacities and boom lengths:

Maximum load capacity	350 t
Telescopic boom	70 m
Maximum hoist height	134 m
Maximum radius	96 m

FACTS

MOBILE CRANE ON VIRGIN MISSION

// MOBILE CRANE
// INDUSTRY
// DENMARK

Recently the BMS Group acquired yet another mobile crane from Liebherr – this time an LTM 1350-6.1 – and its home base is at BMS Kolding.

The virgin mission of the new crane was to hoist two conveyors each 20-metres long and 12 tons heavy unto two tall silos. For this assignment, the crane was set up on a fairly small working area at the port in Aarhus, the second largest city in Denmark, and rigged up with 100 tons of counter weight and 36 metres luffing jib.

Among others, the crane's first task involved crane operators from BMS Kolding and BMS Esbjerg, while technicians from Liebherr-International AG attended to instruct in safe and efficient assembly of the crane.

The assignment was performed for the company Lachenmeier Monsun A/S, which since the foundation in 1952 has grown into an internationally acknowledged specialist in design and production of technically advanced solutions for bulk handling of almost any product. Lachenmeier Monsun supply individual machines, turn-key installations, engineering, supervision, 24-hour service as well as complete plants for grain drying and storage, inland and port terminals, oil and feed mills, premix factories, malting plants, and plants for the handling of biomass fuels.

The initial lift was appropriately celebrated with hot-dogs for everyone at the site.

BMS HELPS TOWARDS A WORLD BASED ON GREEN ENERGY

// TRUCK MOUNTED LIFT
// OFFSHORE WIND
// GERMANY

Back in the year 1900 the transatlantic shipping enterprise Hamburg America Line built a large ocean liner terminal at Cuxhaven to the northwest of Germany. For almost three decades it served as the major departure point for German and European emigrants to not least the United States.

Conveniently situated on the shore of the North Sea at the mouth of the Elbe River estuary, Cuxhaven is today the location for transhipment, warehousing, and logistics companies as well as an offshore base port for the wind power industry. And that brings us to the city's relation to the BMS Group as Cuxhaven recently was the base for two 103 metres truck-mounted lifts from the BMS Lift Division.

From April to July 2018 the BMS vehicles were involved in helping with the completion of jackets for offshore wind power installations for Ørsted A/S – a Danish energy company with a vision of creating a world that runs entirely on green energy.

The job was a matter of some urgency, and it was therefore not possible to wait for the typically six weeks it takes to get the necessary permits for driving larger vehicles in Germany. Instead, the BMS Lift Division chose to sail the two truck-mounted lifts from the Danish port city Esbjerg to Immingham just north of Grimsby in eastern England. From here they were transported by sea to Cuxhaven. Typically, there is quite a lot of planning, documentation, and security control involved in any given BMS task, but in this case, there were a number of extra things that had to fall into place before work could begin in Germany.

When the job in Cuxhaven was completed, the vehicles were sailed back to England, commissioned for a task at the Palace of Westminster in London.

LIGHTS OUT!

Raskiftet wind park in a joint venture between three partners: German Stadtwerke München, Norwegian Eidsiva Energi, and Gudbrandsdal Energi also from Norway. The park consists of 31 Vestas wind turbines delivering 370 GWh – that is equivalent to the annual consumptions of 18,500 households.

// TRUCK MOUNTED LIFT
// ONSHORE WIND
// NORWAY

Typically wind turbines are equipped with aviation lights flashing at regular intervals. However, this is not the case for the wind park Raskiftet on the west side of Osensjøen near Trysil in Norway. Here a 64 metres manlift from the BMS Lift Division operated by BMS Kran Sp z o.o. has helped in installing Vestas InteliLight radar systems. These radars continuously and autonomously scan the wind park's surroundings with a range of up to 36 kilometres. Whenever an aircraft is detected approaching the wind farm, the aviation lights are turned on. In other words: When no aircraft is anywhere near the wind park, there is no frequently flashing lights as generally seen on wind turbines.

The job at Raskiftet is a result of close cooperation between a leading provider of one-stop solutions for the installation and service of onshore and offshore wind turbines around the globe and the BMS Group.

In early 2018 the partners discussed the use of manlifts for tasks such as blade inspection, turbine installations, and assembly of turbine equipment on tower sections. However, the first project to follow the discussions was the one at the Raskiftet wind park in Norway in the fall of 2018 when the Polish division of the BMS Group assisted during installation of the IntelliLights radars.

A second order followed shortly after – and after entering into a long-term agreement the BMS Group is now looking at new markets like Sweden and Poland.

WHERE TRAFFIC MEETS

A new double-track electrified railway is being built between Copenhagen and Ringsted some 70 kilometres southwest of the Danish capital. The line is being prepared for passenger trains running at speeds of up to 250 km/h and will be the first in Denmark capable of being used by high-speed trains

// GROUP ENGINEERING
// INFRASTRUCTURE
// DENMARK

As part of the new line a station – Køge North – is being built in Køge 45 km southwest of Copenhagen. Here the motorway, an S-train line and the future high-speed line will meet – turning the area into a regional transport hub and an obvious location for a large park and ride facility. Køge North Station is to promote railway transport in Denmark and make it possible for all passengers to change from one mode of transportation to another.

A quite significant part of the Køge North Station is a 225-metres pedestrian bridge. Divisions of the BMS Group have been involved in the project for a longer period of time. In 2017 three massive cranes from BMS Krangården conducted several coordinated ballet performances as they balanced the elements of the pedestrian bridge in place.

Together with BMS Copenhagen they also took care of the transport, lifting, and construction of temporary supports of the six major steel sections as well as the installation of all stairs and escalators over railroad tracks and roadways. BMS Group Engineering was also heavily involved in the project as this part of the organisation helped planning the lifting as well as the transportation – to ensure a high level of safety and quality for all BMS employees and partners. In addition, the engineers provided the design of four steel towers that were used to maintain the bridge sections at seven metres in height while they were being welded together into one long bridge. The construction of the bridge sections made the elements extremely wind-sensitive, and therefore there were high demands for stability and strength of the supporting towers.

Each of the bridge sections weighed between 120 and 170 tons and had a length of 35 to 45 metres and a cross section of 9.7 x 6.6 metres.

INVESTING IN FUTURE CHALLENGES

During the last couple of years, the BMS Group has included the haulage company Torben Rafn A/S with 25 tractor units, extendable trailers, semi-trailers, lowbed trailers, and modular axles. Furthermore, the company has a considerable amount of gear for modular axles, such as low beds, tower adaptors, boiler deck, spacers, turntables and bogie equipment.

// TRANSPORT
// DENMARK

Most recently Torben Rafn has acquired a low loader built specially for the transport of construction machinery, crawler cranes, and the like. It is also very suitable when moving transformers and other heavy industrial goods. The low loader has three axles in front of the cargo and five axles behind while being pulled by a five-axle tractor unit.

One of the primary tasks of the new low loader was to move a 93-tons excavator. This machine, which was to be transported about 200 kilometres through Denmark, gave certain challenges at a height of 5.25 metres, a width of 4.2 metres and a length of 30 metres. Along the way, the transport with a combined weight of 147 tons had to pass a relatively narrow bridge, and a number of roundabouts had to be taken into account as well.

To lower the excavator parts of it were disassembled and transported separately – and for safety reasons, two pilot cars followed the low loader throughout the entire journey.

Transporting excavators, dumpers, loaders, demolition machinery etc. is the sort of work handled by the contractors' machinery department. Torben Rafn A/S often transports equipment for contractors, construction companies, contractors' equipment dealers as well as the agricultural sector - by land, sea and, if required, by air.

FACTS

LESS WASTED LOAD OUT TIME AND LESS DOCK TIME

// CRAWLER CRANE
// OFFSHORE WIND
// DENMARK

The BMS Group is the right partner if you are looking for less wasted load out time and less dock time – just ask MHI Vestas Offshore Wind A/S.

MHI Vestas Offshore Wind A/S – a company jointly owned by Danish Vestas Wind Systems A/S and Japanese Mitsubishi Heavy Industries Ltd. – has the mission of co-developing offshore wind as an economically viable and sustainable energy resource to benefit future generations. This happens, among other things, from the company's facilities in Nakskov in southern Denmark. Among the MHI Vestas Offshore Wind partners in Denmark is BMS Lolland Falster and one of the most recent and newest assignments for this part of the BMS Group has been to assist in the shipment of wind turbine blades from the port of Nakskov. The task was to find a solution where it was possible to best place 12 80-metres blades on the dock in Nakskov so that they could be loaded onto a ship – without using the gantry crane from the Nakskov factory in connection with the loadout.

In all simplicity, it was about finding a method that could ensure less wasted time at loadout and less dock time for the ship. The task was solved by BMS Lolland Falster, who, in close collaboration with the factory in Nakskov and MHI Vestas Offshore Wind's transport department at the headquarter in Aarhus, Denmark, made plans for the operation. BMS Lolland Falster used a Liebherr LR 1300 crawler crane, which was applied for other tasks for MHI Vestas Offshore Wind, now that it was in the area.

BMS GROUP INVESTING IN FUTURE EMPLOYEES

// EMPLOYEE TRAINING
// THE BMS GROUP

If you want a highly qualified workforce, it is necessary to contribute to the continuous education of future employees who can take over when the more experienced ones proceed to other employment or retire. This is a fundamental thought at the BMS Group.

Everywhere in the BMS Group, there is a considerable need for well-qualified employees, and therefore it is only natural that each of the companies in the group chooses to involve themselves in the on-going training of employees who have insight into the very diverse areas of work found in the companies of the BMS Group.

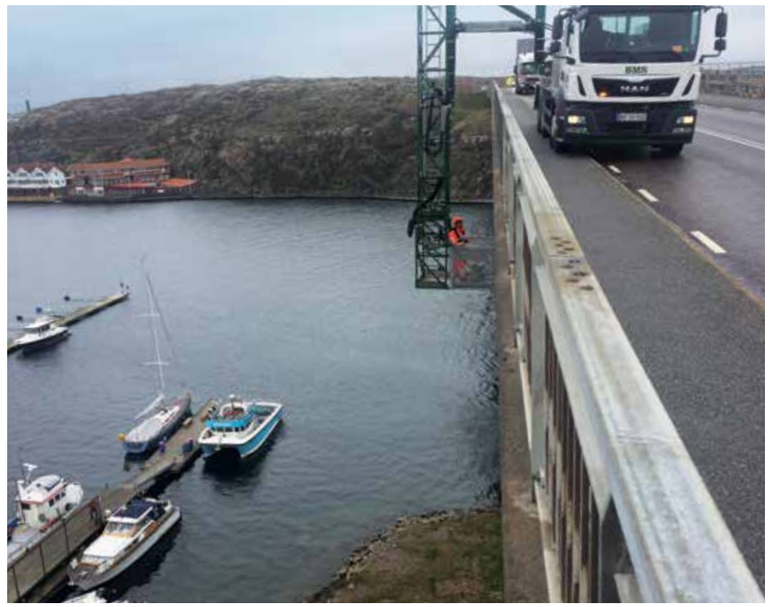
Every year the BMS group has a substantial number of employees in training.

BMS Aarhus has most recently among others had a young man as a crane operator apprentice. He has been trained in the handling of all material at the Aarhus department. After finishing his apprenticeship, he has obtained permanent employment and has been put in charge of a brand new Liebherr LTM 1095-5.1 mobile crane, which his boss sees as an excellent example of the benefit of doing your best every day.

BMS Aarhus currently has three crane operator apprentices. While one is 21 years old and taking a vocational education, another is 25 years and under an adult learning program, as he already has an education as a farmer. The third is 36 years and also under adult learning, as he is trained as a truck mechanic and has worked for several years at the BMS Lift Division. Finally, there is a young man of 21 years, who is a transport apprentice with jacking and skidding as his speciality.

Most young people being trained at the BMS Group are men – especially when it comes to the handling of cranes. However, a couple of years ago, BMS Copenhagen employed Denmark's first female crawler crane operator. When working for a surveillance company she came to the BMS Group and asked for a job as crane operator – and after a four-week course, she was certified as a crawler crane operator. Also, she has received intern training as well as peer training so she can now handle a number of the crawler cranes in the BMS Group.

BUSINESS IN SWEDEN IS GAINING MOMENTUM



// BUSINESS IN GENERAL
// SWEDEN

BMS Kranar AB – that is the Swedish division of the BMS Group – continues to develop nicely. This is not least the case in the western part of the country around Gothenburg as the latest year has seen a number of long-term projects within the chemical and oil industry. Most recently BMS Kranar AB has signed a new agreement regarding the day-to-day business at the Premm refinery in Gothenburg.

Preem is Sweden's largest fuel company with a refining capacity of more than 18 million cubic metres of crude oil per year. It refines and sells gasoline, diesel, heating oil, and renewable fuels to companies and consumers in Sweden and abroad.

The BMS Kranar AB fleet of cranes in the Gothenburg area has more than doubled and now includes mobile tower cranes as well as an additional 400 tons mobile crane. In 2019 this part of the BMS Group will add truck-mounted cranes up to approximately 165 tons-metres – and they will be the only ones on this market.

It has been decided to move the BMS bridge lift division from Aalborg, Denmark to the department in Gothenburg as by far the largest market is to be found here. Over time ordinary lifts of 65-70 metres height will be added to the fleet.

Another recent development in Sweden is that the BMS Group now has a department for heavy lifting connected to the local representations in Malmo, Helsingborg, and Gothenburg.

TRUCK MOUNTED CRANES GO FAR

Palfinger PK 200002L loader crane

Max. lifting moment	150.7 mt
Max. lifting capacity	40,000 kg
Max. hydraulic outreach	25.6 m
Max. outreach (with fly jib)	47.9 m
Stabilizer spread (std)	10.4 m
Max. operating pressure	385 bar

FACTS

Truck mounted cranes are getting bigger and bigger. This is also the case for BMS Esbjerg, who recently invested in a very large crane with a huge range in both height and outreach.

// TRUCK MOUNTED CRANES
// DENMARK

Thanks to the new truck mounted crane, BMS Esbjerg can assist its customers with lifts over rooftops, into backyards, and in many other places where space is limited. While erecting a sizeable mobile crane often takes relatively long time, requires a crew, and not least involves pretty much space, it can now be done quickly and efficiently by a single employee with a truck-mounted crane – and without taking up more than a single lane.

The new crane at BMS Esbjerg is a 200 tons-metres Palfinger PK 200002L loader crane mounted on a Volvo truck.

The long boom design is mainly intended for operations with high outreach. The hydraulic lifting height is roughly 49 metres thanks to the long boom design – and due to double circuit control, the crane has a high working speed.

With the 15-degree reverse linkage system on the knuckle boom and the 25-degree reverse linkage system fly-jib, the crane can reach through low door openings and also work inside buildings. Furthermore, the variable stabiliser positioning of the High-Performance Stability Control System allows the full lifting capacity of the crane to be used, even when working within tight spaces.

THE NORTH SEA IS MUCH MORE THAN OIL

Offshore wind is expected to be a key pillar of Belgium's future energy mix and is projected to represent around 10 per cent of the total generated electricity by 2025.

// CRAWLER CRANE / SPMT
// OFFSHORE WIND
// BELGIUM

One of the offshore wind farms that will be delivering electricity to the Belgian grid is Norther with a total of 44 wind turbines and a maximum capacity of 370 MW. This farm is located in the Belgian part of the North Sea approximately 25 kilometres from the port of Zeebrugge.

The owners of Norther are experienced in developing renewable energy projects: The Belgian renewable energy producer Eneco Wind Belgium SA, the Dutch producer and supplier of renewable electricity, natural gas, and heat Elicio NV, and Diamond Generating Europe Limited. Diamond is a Mitsubishi Corporation owned company operating renewable and energy-efficient assets in Europe and the Middle East.

As part of the project, BMS Heavy Cranes started work at the port of Vlissingen in the Netherlands in the fall of 2018. The company is mainly focusing on port handling and preassembly of offshore turbines, offloading of turbine components from vessels, transport of turbine parts to storage, assembly of turbine towers, and finally transport of turbine components from storage to the load-out position.

Involved in the job expected to last around nine months are equipment such as a Liebherr LR11350 with 1,350 tons capacity, a Goldhofer self-propelled modular transporter (SPMT) with 24 axle lines as well as upending tools and a large number of containers for equipment, workforce, and tools. The crew in Vlissingen consisting of site management, crane supervisor, crane operators, SPMT supervisor, and SPMT operators are working dayshift five to six days per week – and night shifts whenever needed.

The Norther offshore wind farm is set to become Belgium's largest project of its kind. When fully operational in 2019, Norther will generate enough sustainable energy to meet the needs of almost 400,000 homes.

UP HERE IT'S ALWAYS WINDY

// MOBILE CRANE
// ONSHORE WIND
// DENMARK

In the outermost northwest corner of Denmark – closest to the North Sea – strong winds are often posing particular challenges. This was also the case when BMS Krangården was to replace an 80-tons generator installed at about 85 metres in height on a two-winged Envision prototype wind turbine.

Two Liebherr LTM 1750-9.1 mobile cranes with 19 metres telescopic extension, 45.5 metres luffing fly jib and superlift were used for the task. It took about one day to raise the 750 tons cranes – and before that BMS Krangården unloaded the new generator from coaster to dock, using two medium-sized cranes for this part of the project.

The old generator had to be taken down and the new one installed at a certain angle. Therefore the lifting arrangement needed two built-in hydraulic pistons to adjust the slope of the goods during the lift.

Because of the wind turbine's location close to the water – and due to a fixed workstation for the goods – BMS Krangården's work area was relatively limited, and the task required significant technical planning. Among other things, the space around the turbine had to be modified with sand-coated pads and steel plates before the cranes could be brought into place.

BMS Krangården had several employees involved in the planning of the task, while colleagues from BMS Heavy Cranes took care of the commercial contact with Envision Energy. In addition, the job involved the crew responsible for the practical execution at Thyborøn harbour. As usual with large-scale jobs, BMS Group Engineering as well as the BMS Group HSEQ Department played a vital role.

Although the wind also worked hard to delay this particular project, the BMS crew succeeded in completing the entire job within the scheduled time.

FACTS

Since 2007 Shanghai-based Envision Energy has been focusing on a new world of sustainable energy. The company's prototype PP2B in Thyborøn, Denmark is a 150-metres high 3.6MW wind turbine. The two blades with a span of 128 metres are wider than conventional blades to provide the same effect as three.

YOUR CONNECTION TO CRANES, LIFTS AND MORE