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SAFETY AND WORKING ENVIRONMENT - AT THE HEART OF OUR BUSINESS

2015 has been a year of further expansion for the BMS Group: We started business in United Kingdom and South Africa, acquired Scandinavia's largest crawler crane not least well suited for the wind power industry, and set out to reform the European market for the heaviest lifts.

Based on our vastly expanded fleet of modern truck-mounted man lifts we decided to launch "E24". It is Europe's first 24-hour service with a ground-breaking total solution concept: Within 24 hours after contact we guarantee to have one of our specially trained supervisors at work with the customer to assess the need and plan the

often widespread task – no matter where in Europe the call is coming from.

The "E24" concept is aimed at the lifting tasks of specialised workmen with demanding jobs in high altitudes. There are jobs all over Europe, but only a few companies have the best and safest equipment as well as the specially trained, experienced operators. In other words: A market for safe lifting assignments that BMS wants to reform and eventually come to dominate with our extremely professional concept, regardless of where in Europe the job is located.

Safety and working environment are at the heart

of all of our business – from truck mounted lifts and crawler cranes to telescopic boom cranes, lattice boom cranes, truck mounted cranes, and mobile tower cranes. Our engineering and quality department makes sure that all assignments are done correctly and are well documented, setting the standard for the entire market.

Since the establishment in 1953 – as part of the European Recovery Program after World War II – BMS has grown securely. Today we are by far the largest in our home country Denmark and among the market leaders in Europe. For a few decades Denmark was our main working field but

today we solve lifting assignments all over Europe – and 2015 brought us to other continents as well. We hire out cranes, and man lifts of any size and to any assignment from our net of offices in Denmark, Norway, Sweden, Germany, Poland, and the United Kingdom.

This magazine is all about the work we do – and how we do it. We hope that you'll enjoy reading. And that you'll trust us with your lifting assignment.


Jens Enggaard
CEO

Location: Radisson Blu Scandinavia Hotell, Holbergs Gate, Oslo, Norway

Date: September 2015

Equipment: 220 tons mobile crane with 29 metres hydraulic jib; three trucks to rig the crane with counterweight and jib as well as the transport of building materials; scissor lift; forklift.

Client: Nortekk AS

FACTS

All 497 hotel rooms are booked and the conference facilities are filled with 2 x 500 participants. One of them is the Norwegian Prime Minister.

YES, PRIME MINISTER...

Lifting old roof covering material and worn out elements for a ventilation system down from 63 metres and hoisting new equipment up again might not sound like much of a job. But when it takes place at a hotel where all 497 rooms are booked and the conference facilities are filled with 2 x 500 participants – and one of them is the Norwegian Prime Minister – the task really is a bit out of the ordinary.

From the roof of the Radisson Blu Scandinavia Hotell rising 22 stories above the Norwegian capital there is a magnificent view of the stunning Oslo fjord. And up here – as well as down at street level in Holbergs Gate – BMS Kranringen Oslo was at work.

BMS Kranringen Oslo was commissioned to handle all the logistics and security, including permits, road closures, temporary

removal of street lighting, driving away all waste and naturally the rigging of the crane that would carry out the approximately 120 hoists.

Three days were allocated for the first part of the project. In less than four hours the area was closed off with among other things 70 metres of constructing barricade fencing and the crane was ready to work. Everything went as planned.

And a few weeks later, people and gear from BMS Kranringen Oslo was working at the Radisson Blu Scandinavia Hotell again – only now to take equipment off the roof after completion of the roof covering and to hoist up the elements for the new ventilation system.





Det Norske Veritas (DNV) certify that BMS AIS conforms to the Safety Management Standard DS/OHSAS 18001:2008 and the Danish Occupational Health and Safety regulation no. 87 of January 31th, 2005.

SAFETY IS FIRST PRIORITY

All BMS activities are embedded in a corporate Health, Safety, Environmental & Quality (HSEQ) system.

Regardless of the task safety is first priority for BMS and by 2016 all companies in the BMS Group are expected to be certified according to the Health & Safety standard OHSAS 18001.

Within the scope "Crane, lift & heavy lift solutions" the BMS activities are embedded in a corporate Health, Safety, Environmental & Quality (HSEQ) system. The ultimate purpose of the HSEQ is to provide a safe working environment for all BMS employees, subcontractors and clients.

One of the objectives of the BMS HSEQ policy is to register and control significant health and safety impacts and through that prevent damages and work related inju-

ries. Therefore, BMS is reporting all hazardous events in a HSEQ reporting system, covering an HSEQ app and a connected database where all incidents are handled in order to prevent similar events in the future. It is also possible to complete site and safety inspections from the HSEQ app.

Also, it is an objective in the HSEQ policy to train and educate the employees into supplying a higher level of safety and quality work. Therefore, BMS is presently developing a new e-learning training platform, covering any risk described in the organization's risk assessment program for all routine tasks.

Safety is indeed of the highest priority in all pro-



cesses at BMS. However, there is no place where it is more important than in the practical performance of any given assignment. No matter what may

have been decided in the planning phase, the operator has the final word when he is on site.

BRIDGE OVER TROUBLED WATER



The first Marieholm bridge was built in 1908 and was at that time Sweden's longest railway bridge. The original iron bridge was replaced in 1996 by a new bridge in concrete and in 2013 ground was broken for the Marieholm Connection of the future.

FACTS



The part of the BMS Group called BMS Krangården has practically been growing up alongside the Danish wind industry. Therefore, the company has over the years accumulated a wealth of knowledge and experience in carrying out of both onshore and

offshore assignments for this part of the energy sector.

However, one of the company's latest major tasks is not on a wind farm in Germany or Scandinavia, but in connection with the extensive Marieholm Connection infrastructure

project in Gothenburg, Sweden.

Gothenburg has only one single-track bridge for rail traffic across the Göta River. This bridge carries all traffic bound for the Port of Gothenburg so it is easy to understand that any disruption here

can bring great harm to industry and port activities. A new Marieholm Connection is therefore being built in order to strengthen the robustness of the infrastructure in Gothenburg.

BMS Krangården helps in removing old bridge

sections and putting new ones in place. Depending on the conditions at the site in question this is done either by cranes, hydraulic towers or low loaders. In one case rigging and moving of a 500 tons bridge section took place with hydraulic towers. At another

point BMS Krangården removed three old bridge sections using SPMT low loaders – and the same method was used when three new sections pre-fabricated on site were brought in place. The heaviest of these sections weighed 650 tons.

SPMT is a self-propelled modular transporter, a platform vehicle with a large array of wheels. The SPMTs are used for transporting massive objects such as large bridge sections, oil refining equipment, engines, and other objects that are too large or heavy for trucks.

The choice of method is based on an assessment of not least accessibility, area and load.

Some 650 kilometres south of the Arctic Circle lies the archipelago island Hitra, the seventh largest island in mainland Norway.

FACTS

Every job on a wind turbine is demanding but the one on Hitra is in a league of its own.

UP HERE THE JOB TAKES A MAN



Some 650 kilometres south of the Arctic Circle lies the archipelago island Hitra, the seventh largest island in mainland Norway. Here 24 wind turbines were erected in 2004 and since then Hitra Wind Park has been expanded with a similar number of turbines, bringing the total capacity up to 300 GWh. That equals the consumption of about 15,000 households.

The Hitra wind turbines are owned by Statkraft, a leading company in hydro-power internationally and one of Europe's largest

generators of renewable energy. Every now and then the turbines have to be serviced – and that is a task carried out by people and gear from BMS Lifts.

Since the early 1980's BMS has worked in close co-operation with wind turbine manufacturers, erecting and servicing wind turbines all over the world. Over the years BMS has handled wind turbines on land as well as offshore and performed port handling of all types of wind turbine components. Every job on a wind turbine is demanding but the

one on Hitra is in a league of its own. Not only is the location far away from pretty much everything – for instance 20 kilometres of new road had to be built in order to get to the place where the first wind turbines were erected. The BMS people working in this location also have to be of a certain nature: Often a job lasts up to four months and working all by yourself in a lift 100 metres up in the air takes a man.

Hitra lies between the Trondheimsleia and the Frøyfjorden. The 345-metres tall Mørkdalstuva is the highest point on the island.

New modern facilities for Copenhagen based BMS branch.

An increasing number of demanding tasks and still more equipment has in recent years made the space too cramped for BMS Copenhagen.

Therefore it was decided to move this part of the BMS Group from the Danish capital suburb Rodovre to neighbouring Hvidovre.

BMS acquired a plot of MT Højgaard, one of the leading construction and civil engineering companies in the Nordic countries. A 1,700 square metres office building has been built, while a warehouse of some 5,000 square metres has been renovated and converted into a crane workshop. The total area

for placement of cranes is 36,000 square metres.

In addition to more space for staff and equipment the new facilities ensure better road access and logistics as the future BMS Copenhagen base is located closer to the Copenhagen highway system.

NEW COPENHAGEN FACILITIES



DESK FIRST - THEN FIELD

BMS Engineering is a fully staffed internal engineering department, which supports all companies in the BMS group with technical and project-related issues – as project managers and technical advisers.

Thanks to the engineering department BMS can take on combined projects, where advanced engineering services are required in addition to the best in equipment.

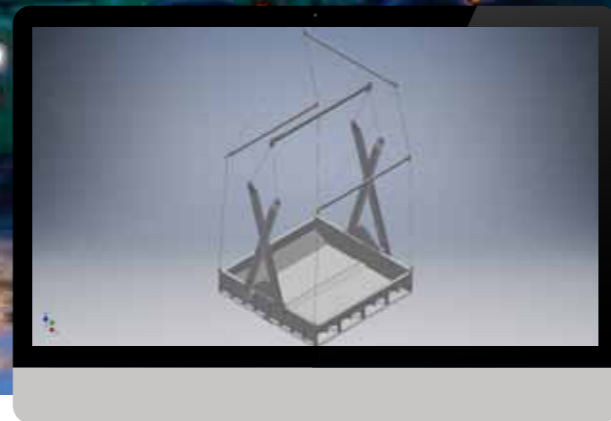
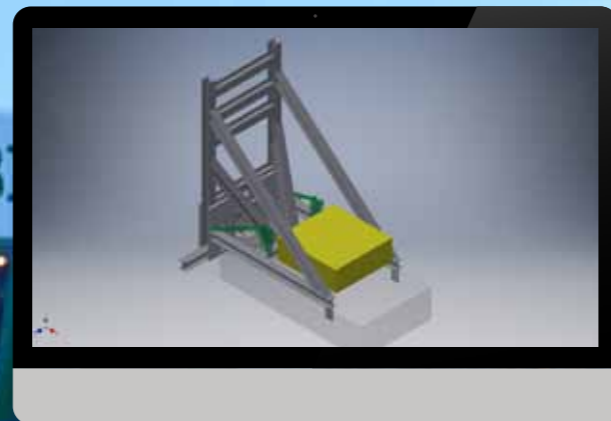
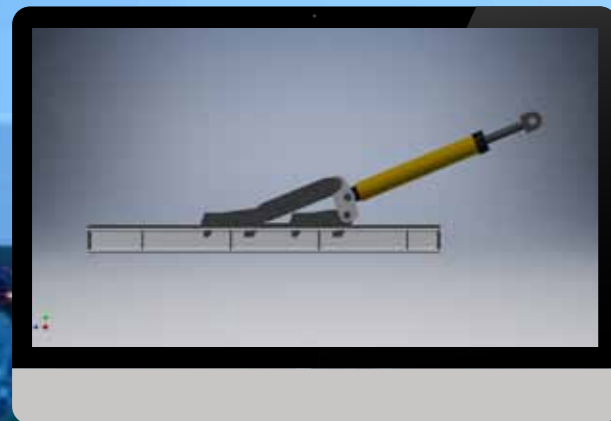
Lift planning from basic 2-D to 3-D animated operation sequences in order to ensure maximum safety and optimization of project timings is a core competence for the BMS engineers. So is development and calculations of equipment and solutions from fairly simple crane layout drawings to very complex FEM calculations, advanced manoeuvring tasks, and heavy lifts. In addition, BMS Engineering has considerable experience in proactive project and risk management, steel design to Euro-Code, the design of lifting sys-

tems according to offshore codes, method statements, and documentation of projects out of the ordinary.

BMS Engineering contribute to the best in quality, as all engineers have several years of practical and theoretical experience in heavy lifts and transport. This means that the client is guaranteed qualified support in the planning as well as the most effective technical solution with the best equipment for the task at hand.

The innovative staff of BMS Engineering collaborates closely with the lifting professionals in the field to develop new working methods and test extraordinary ideas. Furthermore, the BMS engineers act as supervisors in the field in order to ensure the most direct link in case of an unforeseen event and maximum learning for the next job.

BMS does the job twice – first at the desk and then in the field.



Crew and equipment from companies in the BMS Group has helped with the construction of Amager Bakke.

COPENHAGEN GOES GREEN

The BMS equipment at work on Amager Bakke is a 750 tons crawler crane LR 1750, a 600 tons crawler crane LR 1600 (both from BMS Heavy Cranes), a 350 tons crawler crane LR1300sx, a 375 tons crawler crane CC 2500, two 200 tons crawler cranes LR 1200, and a 160 tons crawler crane LR 1160 (all from BMS crawler cranes). Furthermore, BMS Copenhagen has supplied 10 hydraulic cranes from 60 to 400 tons.

FACTS

Amager Ressource Center (ARC) is an integrated part of the Danish capital, turning waste into energy, nutrients and new materials. ARC receives and processes waste from more than half a million residents and 45,000 businesses and in turn deliver electricity and district heating to some 150,000 households.

With the construction of the waste-to-energy plant Amager Bakke, ARC is creating a multi-functional, social and cultural facility with an emphasis on sustainability. It will be one of the world's most environmentally friendly and efficient plants that will raise the bar in Denmark as well as internationally. Amager Bakke is expected to exploit 25 per cent more energy from the waste,

reduce the NOx emissions significantly and bring down CO2 emissions by more than 100,000 tons.

Crew and equipment from companies in the BMS Group has helped with the construction of Amager Bakke, not least due to the fact that the BMS crawler cranes are particularly well suited for construction and steel assembly assignments. This crane type is erected and lifts without supports. At the same time, it can transport the load, which makes it flexible and quick at the construction site.

For instance one of the seven BMS crawler cranes at the site lifted a 37-metres high flue gas washer with a diameter of 6 metres and a weight of around 70 tons. With hooks and gear the total

weight was close to 90 tons.

Amager Bakke will give the residents of the capital area a new recreational opportunity, as the plant is designed as a hill where the roof surface is made available to the public.

With its 85 metres height the unique green landmark will be Copenhagen's largest "mountain", giving the visitors access among other things to a ski slope, a climbing wall, green countryside running tracks and a café.

With its unique combination of a green energy facility and recreational areas, Amager Bakke is scheduled to present its multi-functional industrial architecture to the public by 2017.

EYE IN THE SKY



When the studio album “Eye in the Sky” came out in 1982 it was an instant success for the progressive British rock band The Alan Parsons Project.

However, BMS Lifts could also use this title to describe the company’s business – not least the part taking place high above the ground when inspecting wind turbines.

After performing numerous wind farm tasks on the European mainland, BMS Lifts started addressing the UK market in 2015.

At Blood Hill Wind Farm near the seaside resort

Hemsby in Norfolk, England BMS helped ELEV8 Access Hire to carry out extensive inspection work and blade maintenance on the wind turbines. Massive outreach in 65 metres working height was required and the BMS 90 metres machine could do the job easily with its unique performance of maximum 90 metres working height and 32.5 metres lateral outreach. The lift capacity of up to 600 kg made

it perfect for carrying both people and material.

Blood Hill Wind Farm began operating almost 25 years ago and was one of the first wind farms in the United Kingdom. The original wind farm consisted of 10 turbines with a height of 30 metres and in 2000 it was expanded to include a much larger 65 metres turbine.

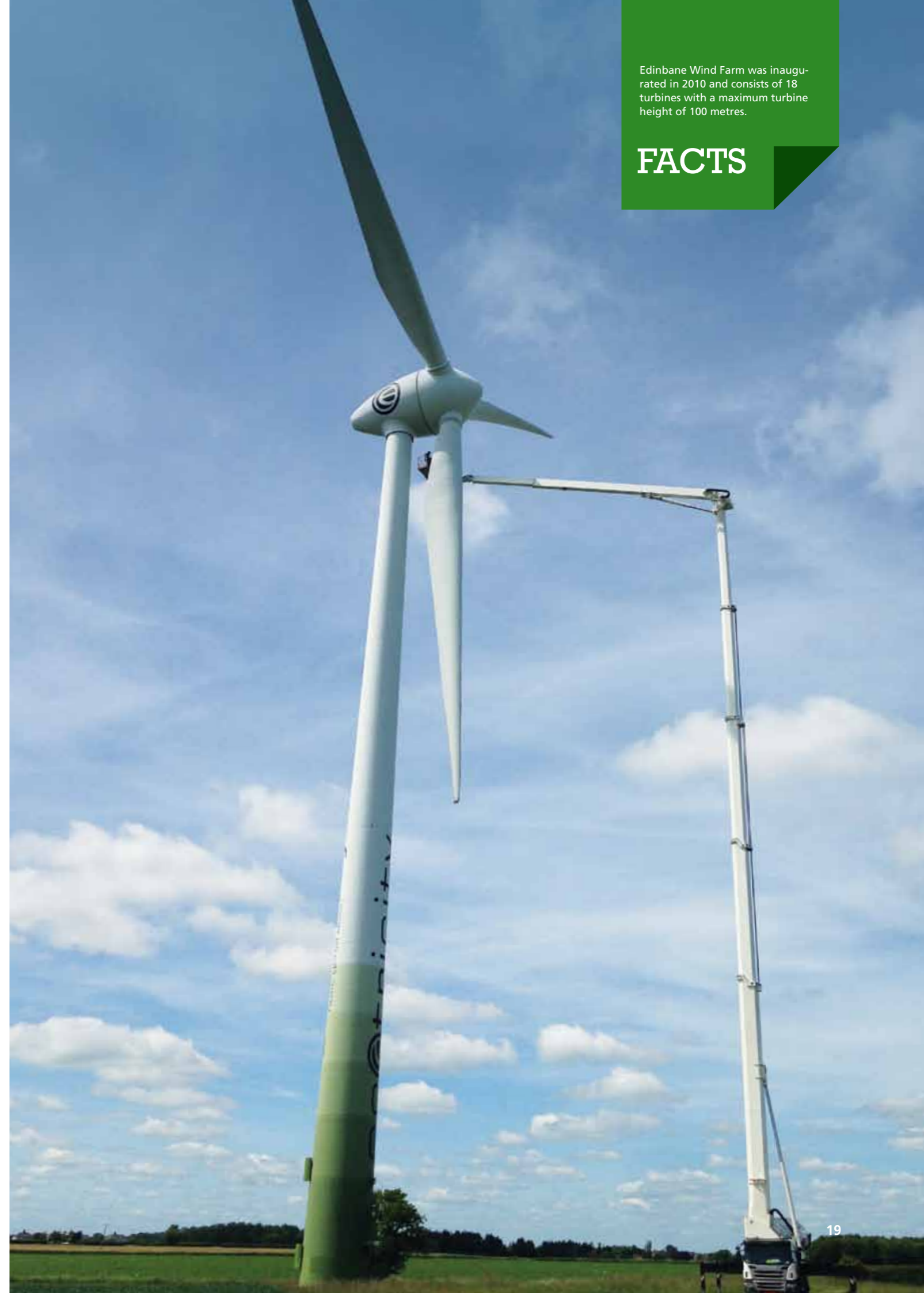
Further up north – at the foot of the Waternish Peninsula on the Isle of Skye in Scotland – BMS Lifts has supported ELEV8 Access Hire with another wind farm assignment. In this case one of the larg-

est truck mounted lifts has carried out blade inspection work on some of the wind turbines of the Edinbane Wind Farm. As the turbines here have a hub height of 84 metres and the rotors have a diameter of 82 metres, the 90 metres lift from BMS was the perfect fit to do the job most efficiently.

In the United Kingdom BMS is often working with partners asking for the company’s very big lifts.

Edinbane Wind Farm was inaugurated in 2010 and consists of 18 turbines with a maximum turbine height of 100 metres.

FACTS



FROM HUGE BRIDGE SECTIONS TO SAFE DEPOSIT BOXES



When BMS Kruse was established back in the interwar years, the company mainly operated as a stone-and-chalk hauler.

However, for close to half a century BMS Kruse has been specializing in internal and external transportation of machines as well as warehousing, packing/conservation, dismantling and setting up of production plants. From the moving of safe deposit boxes to bridge sections of several thousand tons, BMS Kruse will get the job done.

Recently BMS Kruse helped a Danish client that wanted to move its production facilities to Poland. The assignment

was to relocate a 57 ton press and the requirements of the client were high safety, minimal production downtime and timely delivery.

BMS Kruse provided a turnkey solution that was supervised by the same project manager from start to finish. In short this is what was his overall responsibility:

// Dismantling and loading of the press on a low loader in Denmark. The lifting of the press had to be made through an

opening in the roof construction and was conducted by BMS Mobile Cranes in collaboration with BMS Engineering.

// Transport from Denmark to Poland. The press was located on the side and fixed with special transport brackets. The solution chosen reduced the cost of transportation by about 60 per cent.

// Unloading in Poland was carried out by the Polish company BMS Kran. Here too, BMS En-

gineering undertook the planning of the lifting as well as the supporting documentation.

Because there was only one contact person during the whole process, the client never felt that the job was in fact carried out by five parts of the BMS organization: BMS Engineering, BMS Mobile Cranes, BMS Roads Division, BMS Kran in Poland, and not to forget the experienced riggers from BMS Kruse.

The Humber estuary is growing in importance due to its proximity to some of the largest off shore wind farms located off the East Coast of the UK.

FACTS

From a BMS point of view Hull is a very favourable location when setting up business in the UK.

OPEN FOR BUSINESS IN HULL

Already today the United Kingdom is the largest offshore renewable energy market in Europe – and it is expected to keep on growing in size as well as importance over the next 10 years.

Due to this development it is really no big surprise that Siemens AG announced the construction of a new factory for the production of its next-

generation offshore wind turbine rotor blades on the Humber estuary on the east coast of the UK, scheduled to commence production in the summer of 2016. The company is also planning on opening a logistics and service centre close by in Green Port Hull. This is to open next year as well.

Both projects are implemented together with

Associated British Ports (ABP), the UK's leading port operator with a network of more than 20 ports across England, Scotland and Wales. The total investment sum for Siemens and ABP is of well over 370 million EUR.

Green Port Hull is a collaboration between Hull City Council, East Riding of Yorkshire Council and

ABP to promote investment and development of the renewable energy sector in the Humber region. Also the partners aim to support investors and their supply chains to secure long-term economic growth for the area. Green Port Hull has been under development for about four years and a number of companies have chosen this part of the UK as base for their

activities. One of them is BMS as BMS Lifts and BMS Heavy Cranes have joined forces in establishing BMS UK.

The Humber estuary is growing in importance due to its proximity to some of the largest off shore wind farms located off the East Coast of the UK. Most are within 12 hours sailing time from the Port of Hull, which

is one of the three ports on the Humber estuary. From a BMS point of view Hull is also a very favourable location due to the good ferry connections between this part of the UK and the European continent.



FROM AIRFIELD TO RENEWABLE ENERGY

Once Zerbst was the name of one of Europe's largest military airfields – today it is associated with renewable energy.

What in the years 1936-1991 served as a central airfield for first the German and then the Soviet Air Force, has in fact since 2011 been transformed into a centre for non-fossil energy sources.

In 2011 a solar energy park was established in Zerbst. A bio methane plant followed three years later – and the autumn of 2015 saw the third environmentally friendly form of energy when so far 10 wind turbines were raised.

The installation of the wind farm in Zerbst between Hanover and Berlin is a good example that the BMS Group is an international organization: During the first part of the project the BMS team represented Denmark, Germany, United Kingdom, Poland, and Slovakia.

The project in Zerbst provides a good image of how extensive a BMS task often can be. Initially the 10 men from BMS handled one truck,

one wheel loader, two auxiliary cranes of 130 and 300 tons, and as the essence of the task one Liebherr LG1750 crane with a specially designed, extra strong 140 metres boom and 18 metres jib. During the process BMS added a similar crane and crew, as the customer wanted to finish the project faster than originally planned.

Over the years BMS has assembled a very large number of wind turbines in parks across Europe.

However, the task in Zerbst is distinguished from most, as BMS for each wind turbine had to install two steel towers atop a concrete tower. With a hub height of 140 metres, it was not a foregone conclusion that it would be possible to work every single day. At this altitude the boom is quite sensitive to wind, so it is not unusual with fluctuations of a few metres, even with relatively low wind speeds of 9 metres per second.



It takes the crew a few days to move the Liebherr LG1750 crane with its super lift of 400 tons from one job site to another.

FACTS

In many countries inspection of bridges and tunnels is a major focus in the coming years.

This applies, for example, in Sweden, where Trafikverket (The Swedish Transport Administration) manages about 190 tunnels and over 20,000 bridges worth more than 10 billion EUR. In Norway the market is even bigger as over 60 billion EUR has been allocated for infrastructure works until 2022.

FACTS



LIFTS ARE USUALLY A MUCH BETTER OPTION



Bridges are regularly inspected according to DIN 1076 standard: roadrail bridges, rail bridges and pavement bridges must be secured to guarantee and keep the traffic afloat without any inconvenience.

According to EU standards hundreds of thousands of bridges all over Europe have to undergo inspection every six years. To a certain extent lifts have been used for such inspections, but many bridges have typically been checked using for example binoculars – in other words without physical contact of the structure as nowadays required in the inspection regulations.

A bridge lift provides safe access to the underside of a bridge and three to four people can work at the same time on the large platform of the lift. In addition, a lift has the advantage of being car-

ried forward during the work – at the pace, which the inspectors want.

When renovating the underside of a bridge a solution with traditional scaffolding is often used, as this type of work typically takes quite some time. But in this case it is usually worthwhile applying a special renovation lift as this ensures high flexibility and mobility during the renovation.

For nearly 50 years, Germany has used lifts for bridge inspection and today more and more national road authorities realize that bridge lifts are usually much bet-

ter than scaffolds when speed and safety are the key words. Therefore BMS experiences an increasing demand for lifts for bridge inspection, as it is often possible to reduce the inconvenience for the traffic considerably. It is also a great advantage that a lift moves freely during the working process.

The BMS bridge lifts mounted on trucks are approved for operation throughout Europe – and other types of lifts can be used on railways. BMS is approved to work on the Swedish national railways, while a business partner is authorized for the rail-

ways in France, Germany, and the United Kingdom.

Bridge inspection lifts offer the highest safety standards, among other things thanks to surveillance cameras, photocells, ultrasound switches and of course the most modern personal protective equipment. The lifts are equipped with electricity and it is possible to connect water as well as air supply.

Apart from bridges the BMS lifts can work in tunnels and they can be equipped with extra platforms for use on pier shafts and pylons.

The metro in Copenhagen, Denmark is being expanded with a city circle line consisting of 17 new stations. The new line – an approximately 15 kilometres underground railway under the Danish capital – is expected to open in 2019. BMS Heavy Cranes will be lifting the tunnel boring machines to and from the working sites all through 2016.

FACTS

THIS CONTRACT IS FAR FROM BORING



When metro lines are being established, a very great deal of the work naturally takes place underground.

It is also the case in Copenhagen, where the tunnel boring machines Eva, Minerva, Nora, and Tria currently are working hard on the Danish capital's new city circle line.

But there is also a great deal of activity above ground level and here BMS Heavy Cranes is one of the companies easy to spot: It is this part of the BMS Group with the task of moving the tunnel boring machine, each of which weighs about 700 tons and is equipped with a 11 metres long and 350-ton drill head.

BMS Heavy Cranes is used to work in open field – for instance when erecting wind farms – where it is often possible to have two cranes working together. However, that is not the case for the new metro line in Copenhagen. Here the tunnel boring machines are being lowered and hoisted up at working sites that are often located in narrow streets. The task is to lift the elements for the machines, weighing typically 180-200 tons each – and using only one crane.

The tunnel boring machines work in pairs through the subsoil, drilling two parallel tunnels each some 15 kilometres long. The machines drive an average of 15 to 20

metres per day, typically working in 20 to 40 metres depth and removing approximately 3.1 million tonnes of soil and lime.

When the work in one section is complete, the tunnel boring machines are disassembled, hoisted and transported to a new location where BMS Heavy Cranes lower them down so they can be sent off on a new stretch.

In recent years BMS Heavy Cranes has expanded the capacity significantly, so this part of the BMS Group now has 16 cranes of 600 tons or more – the largest of them even 1,350 tons. Earlier on the company

focused on wind projects, but thanks to the increased capacity and flexibility the large cranes are nowadays lifting bridges, large sections of industrial buildings and indeed tunnel boring machines as for the new Copenhagen metro.

The Copenhagen metro assignment is a good example of how the different parts of the BMS Group cooperate – in this case BMS Copenhagen and BMS Heavy Cranes.



Europe's need for an advanced, high-power neutron facility was articulated 20 years ago. The European Spallation Source is a pan-European project, being built with the participation of more than 15 European countries.

FACTS

BY SCIENTISTS, FOR SCIENTISTS

Illustrations by
ESS/Team
Henning Larsen
Architects.



2,000 to 3,000 researchers from universities, institutes and industry will participate in the ESS's user program every year.



The construction of the European Spallation Source (ESS) – a multi-disciplinary research centre based on the world's most powerful neutron source – began in Lund, Sweden in the summer of 2014.

Since then, BMS Kranar in Sweden has been total supplier of mobile cranes,

with the signing of a preliminary four-year exclusive agreement with the contractor Skanska. It is expected that BMS from 2016 will have numerous machines constantly working on ESS. The very large job includes lifting literally everything under the sun – from concrete elements and steel sections to liquid containers

and machinery. ESS is one of the largest science infrastructure projects being built in Europe these years. Designed to generate neutron beams for science, ESS will benefit a broad range of research, from life sciences, energy, and environmental technology to cultural heritage and fundamental physics.

The facility is being built next to the world-leading synchrotron light source, MAX IV, in South-western Sweden, while the Data Management & Software Centre will be located in Copenhagen, Denmark. It is anticipated that 2,000 to 3,000 researchers from universities, institutes and industry will participate in the ESS's user pro-

gram every year, making use of the facility's broad range of neutron instruments to answer their scientific questions.

Organised as a European Research Infrastructure Consortium with member countries throughout Europe, ESS is being built through the collective global effort of hundreds

of scientists and engineers – and with the assistance of among many others BMS Kranar.

ESS interacts with the international research community in order to ensure that the instrument suite meets the needs of science, enabling the breakthroughs of tomorrow. Instrument concepts for

ESS are being developed around Europe, making this a facility built by the scientists, for the scientists.

Both through the research that will be performed there and the establishment of the facility itself ESS will serve as an economic driver for all of Europe. The centre

is expected to deliver its first neutrons by the end of this decade, with the user program to follow in 2023.

After five years BMS Kran has some 30 employees working both locally and internationally. The company has six mobile cranes with a capacity range from 50 to 450 tons.

FROM DAILY RENTAL TO BIG PROJECTS

Established by the Danish government in 1953, BMS is today a privately owned group of companies composed of a number of highly reputable crane businesses.

The first decades BMS focused on activities in the home country, but gradually assignments in

the neighbouring countries followed and today the company's crew and equipment is found on three continents so far.

In connection with the steadily increasing number of jobs outside Denmark BMS has established itself in key markets – to this date in, Norway, Swe-

den, Germany, Poland, United Kingdom, and South Africa. The setting up of the BMS branch in Poland is a good example of how the organization can work: BMS found a potential Managing Director with a lot of experience on the Polish market and the vision to lead the BMS

activities there. A couple of meetings took place at the headquarters in Denmark, a budget was drafted, and a few weeks later the Board pressed the green button. BMS Kran in Poland was born.

After five years BMS Kran has some 30 employees working both locally

and internationally. The company has six mobile cranes with a capacity range from 50 to 450 tons. There are many jobs related to the daily rental business on the local market, but the Polish part of BMS solves more and more tasks in cooperation with the rest of the BMS Group. Among

the many jobs in Poland are the lifting of precast concrete elements for shopping malls, replacement of generators in wind parks, handling of goods for engineering companies, installation of GSM relay stations as well as dismantling of old concrete walls on a waterfront. However,

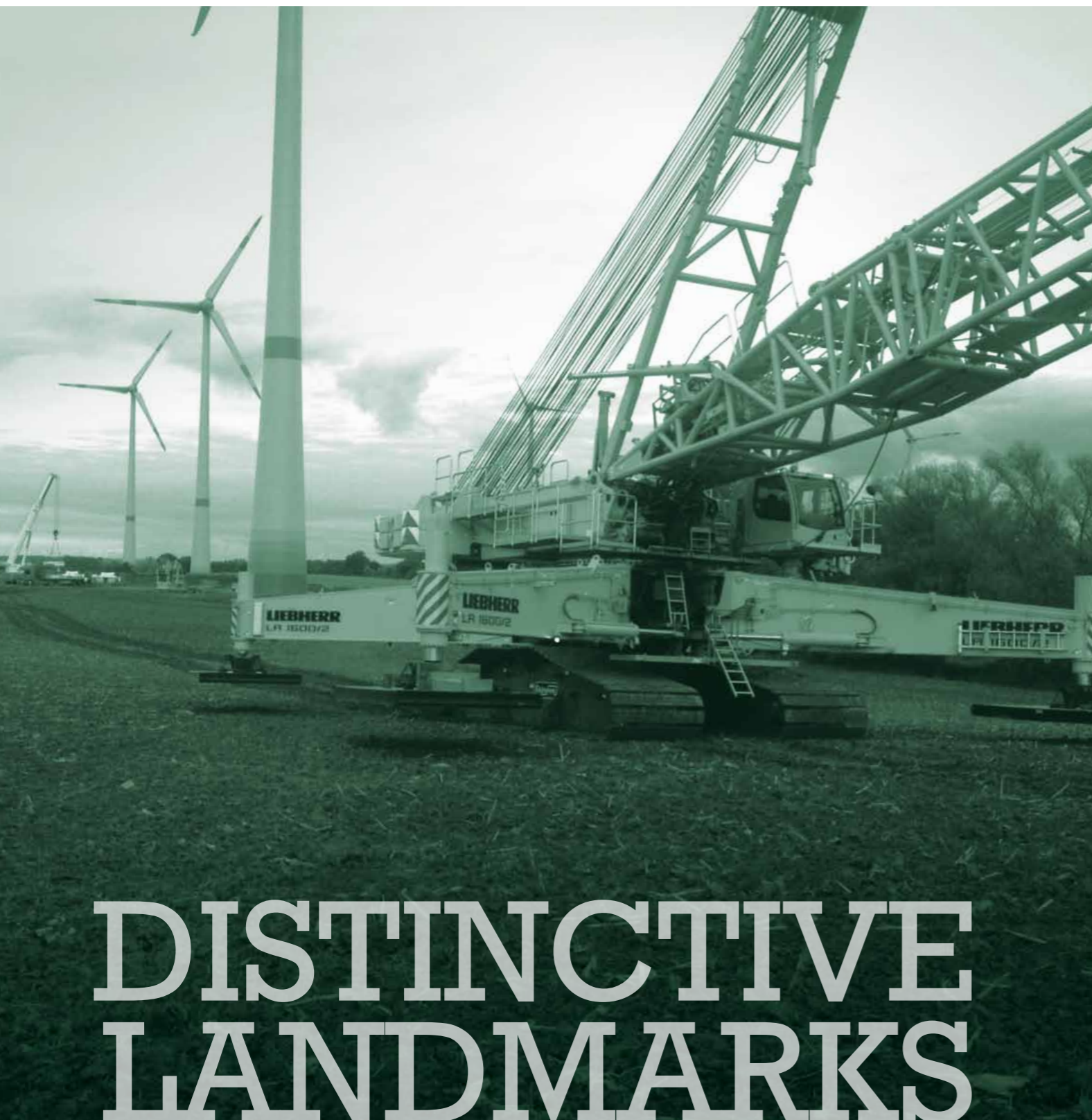
you will also find crew and equipment from BMS Kran at work on for instance wind parks in Sweden.

In the future BMS Kran would like to focus more on the implementation of big projects and is currently in dialogue with interested market part-

ners. In this context, it is of great importance that BMS Kran has the support of the other companies in the BMS Group, and it is a clear advantage for the company that it has considerable experience with large-scale projects gained in close cooperation with the other group members.

The four wind turbines in Kurzen Trechow / Bernitt each have a hub height of 135 metres.

FACTS



DISTINCTIVE LANDMARKS

Back in the 1200s a castle surrounded by a moat was built in what today is the village Kurzen Trechow in the municipality Bernitt, about 40 km southwest of the Ger-

man port city of Rostock. For centuries, the area was known primarily for this castle, but in recent months new, distinctive landmarks have been raised in the form of so

far four wind turbines. Similar to a very large number of other wind turbines in Germany, these four have been established with the help of BMS Krane, the German

part of the BMS Group. While most of BMS' other wind turbine jobs in Germany have involved relatively few lifts per turbine, the approach in this case has been slightly



The manufacturer provided the nacelle as four parts to be assembled on the ground before lifting.

different. Here the manufacturer provided the nacelle as four parts to be assembled on the ground before lifting. In addition, the towers were constructed in an alternative

manner, thus a few more lift per turbine.

The raising of the four wind turbines in Kurzen Trechow and Bernitt was performed using a

Liebherr LR 1600 crawler crane and a Liebherr LTM 1200 mobile crane. The LR 1600 is a 600 tons lattice boom crane, a type typically used when a regular telescopic boom crane

does not have the necessary lifting capacity. As for the LTM 1200, it is a 200 tons telescopic boom crane.

BMS ON THE ROCKS

In a mountainous country cut apart by deep fjords the Norwegian Public Roads Administration (NPRA) administers close to 11,000 kilometres of national roads and more than 44,000 kilometres of county roads. NPRA is responsible for 18,000 national and county bridges as well as around 1,600 road tunnels. Over the period 2015-2019 NPRA will replace old equipment and incorporate new security in around 200 tunnels. Much of this work makes heavy demands when it comes to mountain safety restraints.

FACTS



BMS lifts may operate on roads throughout Europe without special permit.



In a country like Norway, with a great number of roads through often very rocky areas, it is imperative with mountain safety restraints if you want to ensure that all those who walk, cycle, travel by car or use public transport get to their destination safely.

Working with mountain safety restraints is basically all about fixing huge steel nets in order to prevent rocks from falling down. Traditionally this has been done by drilling holes with a 40-kilo pneumatic hammer and installing large anchors to hold the nets. However, within the last couple of years BMS has developed a revolutionary solution that is much less stressful for the per-

son attaching the mountain safety restraints – without compromising either safety at work or the final result.

Previously physical contact between the employee and the tool was a necessity but today BMS uses specially modified 53 metres truck mounted platforms equipped with a hydraulic and pneumatic driven drill guide with a stroke length of 1.8 metres. Thanks to an additional hydraulic advance of the drill guide of about 50 metres, the drill head is supported close to the actual drilling site. While the operator could previously only work for quite limited intervals, it is now possible to operate continuously through very long stretches.

Every lift has a water cannon and a built-in eight cubic metre compressor, and a custom-built work platform designed specifically for this kind of drilling equipment. The water cannon can deliver 700 litres per minute, thus meeting regulatory requirements. With a weight of around

30 tonnes the BMS lifts may operate on roads throughout Europe without special permit. The lifts have a platform capacity of 300 kg, a working height of 53 metres and an extension of about 40 metres, which is the largest on the market.



HOW DO WE GET THAT ONE IN?

Location: Cabinn, Esbjerg, Denmark
Date: 2015 (10 weeks)
Equipment: 130 tons Liebherr LR 1130 crawler crane with 23 metres boom and 29 metres luffing jib

FACTS



How do you get a crane into a backyard when the entrance is not high enough – and there are no alternative access roads?

That was the challenge BMS Esbjerg was facing when the hotel chain Cabinn booked crane assistance for the construction of a new wing to the hotel in Esbjerg, Denmark.

The original idea was to use a 220 tons mobile

crane, but it soon turned out that the entrance would cause problems both in width and height. The heavy duty semi-trailer alone was 70 cm higher than the maximum of 3.48 metres.

In the end the assignment was carried out by using a crawler crane, which is only 3.22 metres high – and it was transported through the entrance to the backyard on a pair of skates. In consequence, the total

height was kept at 3.38 metres.

The hotel in Esbjerg is part of the Cabinn chain, currently consisting of eight hotels in Denmark with more than 2,000 rooms. The new wing in Esbjerg adds more than 70 rooms to this portfolio.

A Danish engineer who got the idea for his hotel concept on board a ferry established the Cabinn chain in 1990. He noticed how the functional de-

sign of the cabins saved space without compromising on comfort. By applying the concept on land he thought it would be possible to create new types of accommodation at entirely different prices. His plan was to open hotels at central locations in cities where property prices are often very high, but to make the rooms slightly smaller in order to keep the price for each room low.



SIZE MATTERS

The national test centre for large wind turbines in Østerild Dune Plantation in northern Denmark allows for testing of seven new wind turbines up to 250 metres high – some of the largest and most advanced wind turbines in Europe.

FACTS



The latest generation of wind turbines is significantly larger than its predecessors and can with their efficiency replace many smaller units. With regard to reduction of cost of energy this is a very positive development – but it also poses still higher demands on the suppliers.

As a result of this BMS Heavy Cranes has invested

around 13 million EUR in the biggest crane in the Nordic region.

The crane – a Liebherr LR 11350 crawler crane with a lifting capacity of 1,350 tons and a reach of 144 metres into the air – has a total weight of 1,600 tons. Since it takes almost 100 road trucks, it is not exactly a crane that can move on its own or for

that matter switch locations in a short period of time.

The LR 11350 sets standards in the class for cranes capable of lifting over 1,000 tonnes. Offering outstanding lifting capacities in all applications, the design principle of this crane enables economical and straightforward transportation of the

crane components. The diesel engine, hydraulics, electrics and crane cab are transported as a complete unit. Thanks to a wide range of boom systems the crane is highly versatile with or without a derrick system. Excellent safety standards and a high level of operating convenience complement the performance of the crane.



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