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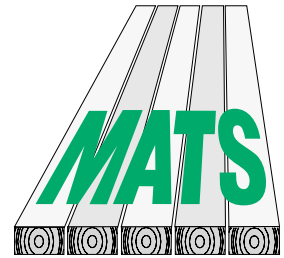
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Crane across the Tyne

On the night of January 13th of this year, ferocious winds raged across England and were particularly savage in the northeast. A dock crane owned by A&P Tyne Ltd of Newcastle, located at Hebburn dock on the south bank of the river Tyne, was caught in a wind tunnel effect between a ship lying against the quay and a further ship in the adjoining dry dock. The crane subsequently ran away on its rails, hitting the buffers at the end of the pier and toppling over into the neighbouring dock smashing a hole in the concrete quay.

Given the fact that the crane, was on the worst side of 30 years old, it was decided to replace it with a slightly younger model from the mothballed A&P yard in Wallsend, located on the north side of the Tyne.

The Insurer Allianz and loss adjusters, Davies Engineering, coupled with their engineering consultants, R. V. Nicholls & Associates, considered all of the options to transport the 464 tonne

replacement crane, from one dock to the other. R.V. Nicholls & Associates agreed and decided that the most efficient method was to hire the services of Taklift 4, a 1,600 ton floating shearleg crane owned by Smit Heavy Lift Europe based in Rotterdam.

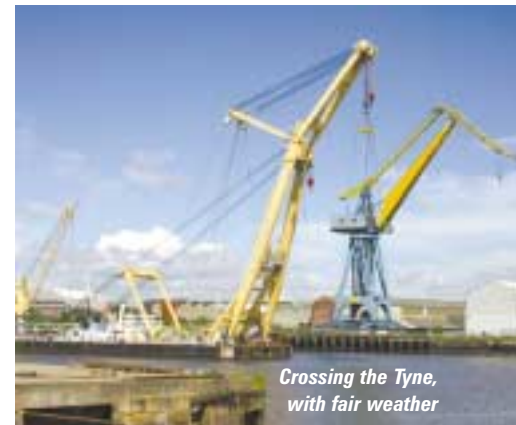
The lift, including slinging and planning, was subcontracted to Clarke Chapman services. The Taklift crane was able to handle the 464 tonne load at up to 50 metres from the front edge of the barge and at a hook height of up to 55 metres.

It was originally planned to remove the dock crane's boom for the trip across the Tyne, in order to reduce the sail effect, given wind conditions in May. However calculations showed that the slinging required to rebalance such a high load would

have been complex and difficult, so the unit was lifted and transported fully intact. The lift finally went ahead on the morning of May 23rd when the weather was good, with a calm river and low winds.



The morning of January 14th revealed the extent of the damage.



Crossing the Tyne, with fair weather

Once the crane was lifted off of the quay at Wallsend, it travelled quickly down river and over to A&P's Hebburn South dock where it was deposited on its tracks at around midday, ready to be prepared for work.



Taklift 4 takes the strain at Wallsend



and carefully down on to the tracks at Hebburn

Heavy Towers

Two of the largest Potain tower cranes are working on the construction of China's first steel cable-stayed bridge in Nanjing. Bridge number three will also be one of the longest cable-stayed bridges in the world.

Potain has supplied two MD 3600 special application tower cranes to the project, the cranes can lift a maximum of 160 tonnes at up to 18.7 metres radius. Each has been fitted with a 40 metre jib.

The bridge will be supported by two pylons, North and South with

a height of 210 metres. An MD 3600 is assigned to each of the pylons, which they will climb as the construction progresses. The cranes will eventually reach a height under hook of 232 metres.

Each pylon contains 21 steel sections which weigh up to 160 tonnes. Once each section is in position it is connected by bolts, there is no welding, with around 40,000 bolts used to connect two sections. The bridge will ultimately contain 33,000 tonnes of steel and with a total of 89 steel deck sections.

"There were three main factors which affected our decision to use steel on this project," said Yu Li the project manager. "Firstly, steel is a high-strength material that is easy to build with and easy to handle, so we knew we could simplify the construction process. Secondly, there are concerns about the environment in this region and using steel, as opposed to concrete, meant there was a much lower risk of polluting the surrounding environment. And thirdly, we studied other steel cable-stayed bridges – mostly in Japan – and came to the decision that overall it was a more efficient way for us to proceed."



The Potain MD 3600

Have bridge will travel

Riga-Eisele, a joint venture company owned by Riga Mainz and Eisele of Maintal for heavy crane hire, was faced with a major challenge in May, when it was asked to move a railway bridge near Besigheim, north of Stuttgart. The bridge weighed 325 tonnes and measuring 35 metres long by 12 metres wide, it had to be moved from where it had been assembled, to a location 60 metres away, where a new rail line crosses over the B27 federal highway.

The lift itself was not too onerous and is typical work for the company, but moving it represented some significant challenges, but as if this

suspended from the mast. The load was lifted at a radius of 16 metres, well within the cranes capacity in this configuration of 400 tonnes at 22 metres radius. It took 32 fully laden trucks to deliver the crane.

The combined weight of the Crane and the Bridge was well over 900 tonnes, so once the road was closed on Sunday morning, the 60 metre route, largely on the main road, was covered with a thick layer of sand onto which were laid two tracks of massive wooden beams, creating a pathway for the crane to travel down.

The crane covered the distance without any hitches. A tower crane located next to the road required the crane to travel the last part of



The Liebherr LR750 travels off centre with its 325 tonne load avoiding a tower crane.

was not enough the authorities would only allow the contractor to close the highway for nine hours on a Sunday.

Riga selected its 750 tonne Liebherr LR 1750 crawler crane for the job, rigged with a 42 metre main boom, 31.5 metre derrick mast and a total of 394 tonnes of counterweight, 180 tonnes of it

the way off centre, and then slew the bridge into position, locating it carefully onto its bearings. Once unhooked, the crane returned to its original location for tear down while the road surface was cleared of the sand and wood, all within the nine hour deadline.

A large crowd of onlookers assembled to watch the spectacle.



Rubbish Lift

LGH Megalift, and Mayfield Engineering Ltd, specialists in heavy lifting solutions, recently solved a major problem for Horstmann Group GmbH, installing two 40t Rubbish Processing Vessels at a Waste Processing Station in Tyneside. The vessels segregate household refuse by size, for recycling or disposal, replacing an incineration plant.

Each vessel had to be installed on two pairs of steel support legs, one pair being 8.5mtrs high, the other 7.5mtrs high, to give the vessels the required incline. The two vessels had to be closely situated side by side.

Two mobile cranes were hired in to lift the vessels, however, after several unsuccessful attempts, this exercise was abandoned. Removing the roof was proposed but rejected.

Following a joint engineering study with Mayfield, LGH Megalift supplied 2 x 400t hydraulic jacking systems. The first vessel, without its legs, was moved into position under the first LGH Megalift system and attached to the lifting points at each end, it was then lifted to a height of four metres.

The second LGH Megalift system was assembled beneath the vessel and raised until it took its weight. The first Megalift was then dismantled and removed.

The second LGH Megalift then raised the vessel to 8.6metres so that the legs could be attached. With the legs held clear of the floor, the lifting jacks were winched forward on rails and the vessel lowered onto the longer front legs enabling locating bolts to be fixed. With the front now secured, the leading LGH Megalift jacks were lowered, moved back along the rails close to the trailing jacks and extended to support the vessels underside.

The rear end of the vessel was then lowered by all four jacks, until its legs made contact with the ground, completing the installation.

The operation was replicated with the second unit. The entire project took four days to complete.

Not so heavy

A Manitowoc Model 18000 owned by Dawes Crane & Rigging, a division of All Erection, is working at the We Energies Pleasant Prairie Power Plant. While not lifting the heaviest of loads, it is being used to place 50 tonne Selective Catalytic Reduction (SCR) modules in the centre of the plant, passing over the top of a coal conveyor and avoiding the need to strip out. The modules are placed into very congested areas with close tolerances. The crane, is fitted with Manitowoc's MAX-ER attachment, which boosts capacity from 600 tonnes to 750 tonnes and it is rigged with 80 m of Manitowoc # 55 main boom and 64 m of # 79A luffing jib. The 50 tonne loads are typically being placed at 80 metres. A single lift and placement of an SCR module is taking about 45 minutes in total.

The Manitowoc 18000 equipped with Max Er heavy lift attachment, 80m of main boom and 64m luffing jib.



The Smits spreader can cope with a mix of empty and laden containers



Port increases container moves by 30 percent

The use of a unique twin container spreader with fore and aft adjustment to cope with listing, has increased productivity by over 30 percent at the port of Rauma.

The Port of Rauma is the largest port in Finland for forestry products, such as paper, which represents over half of the ports 6.3 million tones of cargo. The number of containers that the port is handles though is rising rapidly from the 130,000 TEU's (Twenty foot equivalent) this year.

In order to cope with the rise in container traffic the port ordered an additional Gottwald HMK 300E, 100 tonne mobile harbour crane. At the same time the port management studied the container loading/unloading process in an

attempt to find ways to improve efficiency. It soon became clear that the most significant problems were caused by listing.

- In loading and unloading feeder vessels the vessels list several degrees during the operation.
- Due to this the container is not parallel to the vessel's hold which causes friction between the spreader or the box and the cells.
- The same problem occurs when loading containers to the weather deck of a Ro-Ro vessel when the Ro-Ro cargo is loaded at same time

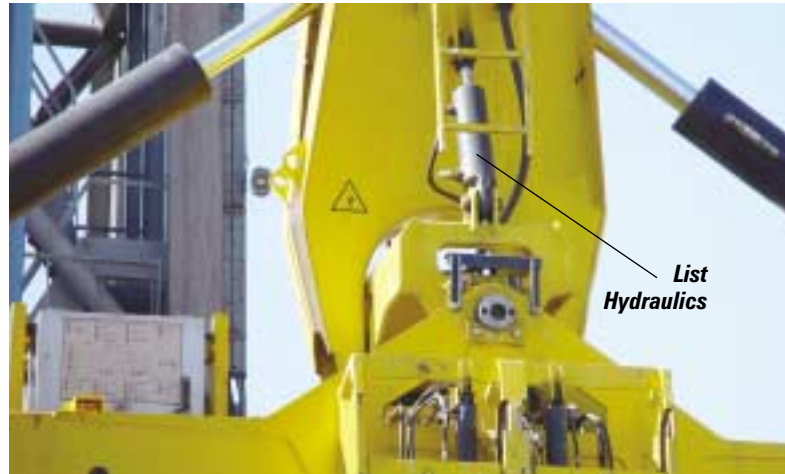
The Port of Rauma increased efficiency by 30% with the VDL Smits CH 6600 TA.FT spreader



The Port had an old prototype spreader that included a lateral adjustment feature to cope with listing, but it could only handle single 20ft containers and the Swedish company that had built it was no longer in business. The Rauma managers realized that if they could find a spreader that combined the ability to adjust to the listing of ships as well as handle two unequally loaded containers at once,

Netherlands, it said yes and designed a spreader to do the job. The first attempt was too heavy, the Gottwald cranes are limited to 63 tonnes at 32 metres on high hoist speed. So Smits took another look at the design, while Rauma realized that it could manage with 25 tonne averages on dual container lifts.

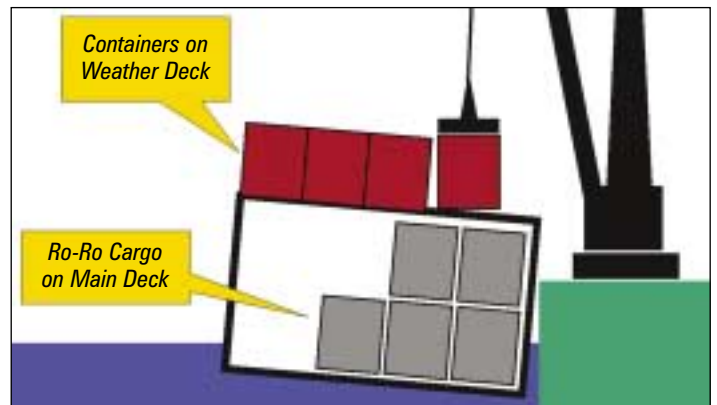
Smits finally came up with the CH 6600 TA.FT a fixed twin spreader with both horizontal and traversal



significant gains in container handling efficiency would come.

So in 2002 to 2003 Rauma contacted a number of spreader manufacturers and was disillusioned by the

adjustment. The spreaders total weight is now under 15 tonnes and will handle two 25 tonne containers. The first unit has been used since late last year, and has increased the



responses which included the usual string of excuses, including:

- "A List function is not necessary"
- "A List function will make the spreader unstable"
- "This feature has never been requested"
- "The problems can be solved by training your crane operators"
- "Order 100 units and we will do it!"

Eventually Rauma came across VDL Smits Spreader Systems in the

number of containers handled an hour by 30 percent.

In addition to the idea working in practice, Rauma claim that it has benefited from a measurable reduction in box damages and that its crane operators have not only accepted the new spreader, but are very positive about it, a highly important factor. The gains are so significant that Rauma has ordered a second CH6600 spreader for delivery this summer.