



■ NFT cranes at the Water's Edge residential development on Yas Island, Abu Dhabi.

A SAFE WORKSITE IS EVERYBODY'S RESPONSIBILITY

With the increasing safety measures and safety of tower cranes, people tend to neglect the human element in operations, according to Ayad El Haj, HSE manager, NFT Specialized in Tower Cranes.

"We constantly face challenges when it comes to 'means of communication', which is stated in all local and international safety procedures. It cannot be stressed enough, and we keep educating other teams on site that an operator is not a solo performer, unlike a truck driver. Operating a tower crane can only be executed by a team with proper means of communication," says Ayad.

The golden rule is that 'Employers shall provide clear instructions to all employees that only the appointed signaller/slingers are to communicate with the crane operator. Crane operators shall also be instructed not to accept signals from any person other than the appointed signaller/slinger.'

The ground team, especially the appointed signaller/slinger, needs to be as well trained and certified as the operator.

"We should never underestimate clear work terminologies, especially when it comes to workers from different nationalities and languages communicating critical task instructions. There is a shared responsibility

and distribution of roles among the operator, planning team, and ground workers. At any site, it is a must to ensure ground workers are clear of the crane operation area and are nowhere beneath the load while the equipment is being operated. A safe worksite is everyone's responsibility. Workers on the ground should be reminded frequently to keep a safe perimeter around cranes at all times. This is one precaution that needs to be reinforced at daily safety briefings," says Ayad.

One of the modern hazards and advanced technology challenges faced by crane suppliers is whether to allow mobile phones or not inside the cabin.

"Similar to commercial driving, crane operations require undivided attention. When the earlier rules and regulations were set, there were no smart phones or social media distractions to consider. We do not prohibit possession or usage of mobile phones inside the cabins for emergencies, and due to limitations in certain projects where we have to use them as signalling devices. However, we highly stress on, and educate our operators, not to engage in any practice or activity that diverts his/her attention while actually operating the equipment, and signal communication devices used by operators must have hands-free systems," says Ayad.

Ayad comments on the potential of simulator for operator training. Crane simulators offer a more economical way to offer basic training to operators a significantly lower cost compared to using real cranes. Simulation scenarios can include any chosen 'risks and variations in the working environment', such as adverse weather conditions, visibility, position of the sun, power lines, water, bridges, material or site equipment, buildings, height, load charts or the crane, operating radius, etc. This might be useful for beginners, refresher courses, or virtual testing.

"The market today has wide range of options, starting with simple simulation software that can be shared on a regular computer network, up to the most advanced cabin-like simulation seats set up with 7 huge LCD screens; this is the closest you can get to real life situations. Despite how incredibly realistic simulators can be, they are not real-life experiences," says Ayad.

Ayad points out that operating a tower crane is not the only responsibility of a tower crane operator. The daily shift of an operator starts with the check list, the climb to the cabin, feeling the altitude, communication with other workers, and constant monitoring of the surrounding working area for potential

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20 NFT cranes are working at the Meydan One site in Dubai.

hazards.

"As for the operation process itself, each crane has a different feel, even those of the same brand and/or model. There is an indispensable corrective instinct that grows with real life experience that an operator needs to be in control, especially when an unexpected situation occurs. Regardless of the crane itself, a lifting operation is part of a plan executed by a team on a certain site location, each can be unique and customized for a particular lift. At the end of a shift, an operator's job does not end with turning off the equipment. There is a check list to be performed by the operator to secure the tower crane, and this cannot be taught by a simulator," says Ayad.

"During the past two years we have been communicating with different companies and studying several types of existing simulation programs. We have to say that the present technological advancement in simulation is impressive. We are in talks with some companies who are focusing on tower crane operators' simulators so this could be part of our future investment. In the meantime, we created the Tower Crane Operator Academy headed by our HSE department whereby we screen, test, train and deploy our 150 tower crane operators according to the tower crane models and site requirements," he adds.

Currently, NFT is involved in several prominent projects across the GCC with a considerable number of cranes working on each site. They include 16 Potain MCT 205 cranes and 15 Orbit hoists working at the



26 NFT cranes are working at the Riyadh Metro site, at different stations and with multiple contractors.

Water's Edge residential development on Yas Island, Abu Dhabi; 14 MCi85 cranes at a Capriole project in Abu Dhabi; 20 cranes at Meydan One, Dubai; 3 MCT 205 cranes at the Movenpick Resort and Hampton by Hilton hotel developments on Al Marjan Island, Ras Al Khaimah; 26 cranes at the Riyadh Metro site, Saudi Arabia; 24 cranes and 8 hoists at the Al-Zour LNG Import Terminal development in Kuwait; 7 MDT 389 and 1 MC 235 cranes at the Kuwait New Maternity Hospital development; 26 cranes at the Kuwait International Airport expansion; and 3 MC 465 and two other Potain cranes at the Marassi Mall development in Bahrain.

Nabil Al Zahlawi, CEO and managing partner, NFT, shares his crane demand

projections and fleet expansion.

"We expect the demand for luffing tower cranes to continue to rise. Expansion of our fleet of luffing cranes will enable us to work on more projects in the GCC where luffing tower cranes are becoming more popular. We plan to replace most of our luffing cranes in the UK with hydraulic cranes. We also project a higher demand for self-erecting cranes as a substitute for mobile and crawler cranes. Self-erecting cranes are suitable for low-rise construction, with quick set up, high performance and low operating costs. Recently, we purchased a few units of the Potain MDT 809, the biggest topless crane in Potain's fleet that was launched at the bauma 2019 expo." **ENR**

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TOPLESS TOWER CRANES WILL SEE HIGH DEMAND WITH GCC MARKET REBOUND



The Potain MCT 325 topless tower crane.

Topless tower cranes have become the standard in the Middle-East, mainly because it allows for better crane interference management on multiple crane jobsites, according to David Semple, senior vice president, Middle East, India, Russia, Africa (MEIRA) region, Manitowoc Cranes.

This year, Manitowoc expanded its topless range with the launch of models such as the MCT 325 and MDT 809. The Potain MCT 325 topless tower crane is available in two versions with jib length configurations from 40 m to 75 m, in increments of 5 m. At its 75 m jib end, the MCT 325 can handle 2.5 t for the 12-t version and 2.3 t for the 16-t version, making it suitable for long-distance lifting.

On a well-prepared site, the MCT 325 can be setup within 1.5 days, with the complete jib and counter-jib erected in four lifts. The MCT 325 is designed to work with the 2 m x 2 m L68 and L69 mast systems and can be utilized with fixing angles in a regular high-rise construction; in an internal climbing configuration; or mounted on a chassis. The crane has a new square design for its counter jib, the first in the Potain MCT range. To

ensure easier assembly on site, the complete jib and counter-jib can be erected in two lifts each, which offers a greater choice of assist cranes for the task. In addition, dedicated sling points on the counter jib and transport brackets on the jib facilitate loading into the crane's compact transport configuration.

"Our dealers and key customers in the region are excited by what new models such as the MDT 809 and MCT 325 have to offer and have pre-ordered some MCT 325 models already. With a capacity of 3.2 tons at 70m jib, the MCT 325 offers a slightly better lifting performance as our hugely popular MC 310-K12, of which hundreds have been supplied in the Middle-East over the last 15 years. But the added benefit of the MCT 325 is that it can also be erected with a 75m jib, thus providing additional reach in case of need, without having to upgrade to the next size of crane. The MCT 325 will ultimately replace the MC 310 model, a long-serving and popular hammerhead top-slewing crane. I am very positive that the MCT 325 will become Potain's best-seller in the region," says Semple.

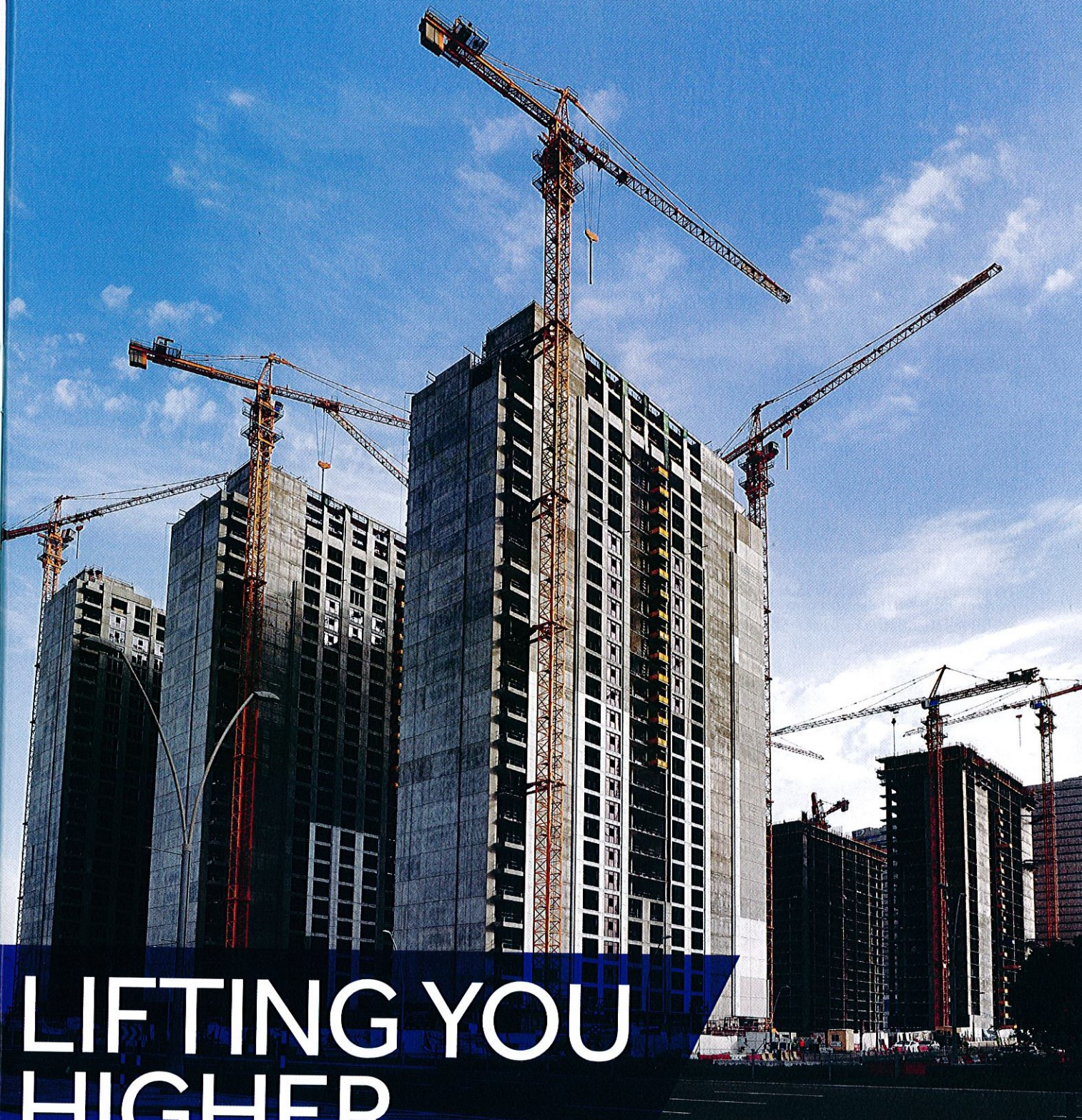
Semple points out that the MDT 809, Potain's largest topless crane ever designed, is

showing a lot of success in Northern Europe. For example, the crane has been selected by the French authorities for reconstruction of the Notre-Dame cathedral in Paris.

"For the Middle-East, the MDT 809 will have applications in specialised construction projects that require a compact mast (K800 technology, 2.45m square section) and the benefits of our CCS control system, in particular the P+ load charts which increases crane capacity by up to +15%. We are confident that it will find its place in the months to come," says Semple.

Potain is also a world-leader when it comes to self-erecting cranes, with product ranges like the lgo, lgoM, lgoT and Hup. However, the demand for self-erecting cranes is not the same as topless cranes in the Middle East.

Semple explains: "Jobsites in the Middle-East prefer not to use self-erectors, mostly because of construction technology, and manpower cost. Potain self-erectors are very popular in places where the employment is highly regulated and expensive. They come as an essential support to small and medium sized construction companies, by making material handling fast, effortless, and safer for



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■ The Potain MDT 809 is the largest topless crane ever designed by Potain.

them. By contrast, the smaller construction sites in the Middle-East tend to rely heavily on affordable and available manpower for similar kinds of duties. And whilst we believe that investing in a self-erecting crane would prove more economical over the life-time of the asset (15+ years), the market is not ready for this kind of commitment. The larger self-erectors are deemed suitable to build multi-story buildings, which we have on the market, such as the IgoT130 and IGO50."

Manitowoc's new mobile cranes launched this year include the Grove GRT 655L and GRT 8100 rough terrain cranes and GMK 5250XL-1 all-terrain crane.

The GRT8100 is the largest Grove rough-terrain crane built in Manitowoc's factory in Italy. It has a 100 t capacity and 47 m five-section main boom, for greater reach and versatility. The crane also features the Manitowoc Crane Control System (CCS) with its user-friendly interface, for easier and more efficient operations. Other features include a tilting cab and impressive load charts.

"With a full complement of boom extension and insert options, the GRT8100 has best-in-class reach of 77 m. Both 10 m and 17 m manual and hydraulic off settable extensions are available as well as a heavy-duty 3 m jib that can be offset to 40 degrees," says Semple.

The GRT655L is a smaller, 51-t capacity crane yet it boasts similar capabilities. It has a 43-m, five-section boom, giving it a reach advantage of 8 m over the closest-competing model. This longer boom gives it a maximum working radius of 36 m and an 80% greater chart capacity than competing cranes at that radius.



■ The Grove GMK 5250XL-1 all-terrain crane and the Grove GRT 655L rough terrain crane.



"The exceptional chart capacities, maneuverability and longer boom length of the GRT655L, combined with its compact 3 m by 12.8 m footprint, make it ideal for rental companies, where versatility and flexibility are key considerations. For greater customer choice, Grove also offers a regular boom version of the crane, the GRT655. This is built on the same platform as the GRT655L, but with one less boom section, for a total main boom length of 34.8 m," says Semple.

With its 78.5 m boom the GMK5250XL-1 has the longest main boom of any five-axle all-terrain crane. As with all Grove all-terrain cranes, it features Megatrak suspension and the Twin-Lock boom pinning system. It is also available with the MAXbase variable outrigger function for added versatility on the jobsite.

"Options for the GMK5250XL-1 include the VIAB turbo retarder clutch, which first featured on the original GMK5250L. The VIAB unit enables wear-free starting and

braking, enhancing maneuverability and operator comfort. In addition to its high-performance features the crane delivers a compact footprint, making it ideal for use in crowded or urban areas," says Semple.

Semple provides his GCC market outlook for tower and mobile cranes.

"Our feeling is that the GCC markets are set to rebound soon. We are coming out of a few years where geopolitical tensions have taken priority over infrastructure building in the Middle-East. We are also reaching completion on a cycle of mega projects such as the Dubai Expo 2020 and FIFA World Cup in Qatar, and I feel the time is now right for another wave of such projects to get into motion. Judging by some of the local governments' announcements, such as Neom in Saudi Arabia or the new Dubai Airport, we are convinced that Manitowoc will continue to lead in region for the years to come," says Semple. **ENR**