

PRESS RELEASE

Wolffkran Supporting Mace at Powergate, London

London, United Kingdom – March 2024. Standing tall over the West London skyline, five Wolff tower cranes are helping to ensure the data requirements of our future are met. The hyper-scale Powergate Data Centre in West London is not merely a building, but the bringing together of technology, construction excellence, and engineering know how.

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Data centres are playing an increasingly crucial role in supporting our digital requirements. Every time we use an App on our phone, join a video meeting, backup our computer or take on the world from our gaming console, the data centre is the unsung hero that enables it. Every digital interaction we have is handled by a data centre – indeed, they are essential for delivering goods and services for businesses, government bodies, hospitals, and schools to name a few.

Andrew Wiggins, Operations Director (Construction) at Mace gave us an overview of the project, *“We at Mace have been appointed to manage construction of this hyper-scale Data Centre set in West London. The sheer scale of this project reflects the demand for an enhanced digital infrastructure, and we are delighted to have tower crane experts Wolffkran working with us.”*

“Having successfully tendered for the project, the team at Wolffkran advised on the placement and specification of the cranes needed to meet the site requirements, including working around existing services whilst achieving the desired reach and lift capacity.” Continued Andrew.

At the heart of this project are five WOLFF tower cranes. These are currently operational 10 hours per day, although the site is likely to go 24 hours per day in the future. Wolffkran is additionally contracted to supply the eight tower crane operators and two crane coordinators needed to oversee and carry out all lifting operations.

“Simply having the right cranes and operators in place is only half the challenge though” commented Andrew. *“Mace have also been really impressed with the crane management app Wolffkran use – 1Guava. The app has really streamlined crane time allocation and simplified lift management on site. This is a big step forward and has been incredibly beneficial for site efficiency.”*

Thanks to their built-in digital lift technology and robust manufacture, these Wolff cranes are proving pivotal in overcoming the unique

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challenges posed by this ambitious project - and their skilled operators are the ones making it happen.

Overcoming Site Challenges Using WOLFF Cranes

The Powergate Data Centre project posed various challenges which each required their own innovative solution. The vast site included an intricate and delicate network of data cables and other services which could not be disturbed during the project. Additionally, it was established that heavy lifts would be required right across the site. Wolffkran's planning team designed a sophisticated scheme of five cranes, each with lifting capabilities beyond the ordinary.

The scheme of five WOLFF tower cranes includes four cranes equipped with enormous 70m luffing jibs, whilst the fifth has a substantial 60m jib. Cruciform bases are used for four of the cranes, but with twice the usual ballast of between 140T and 195T. This is to ensure the maximum possible stability with such long luffing jibs, during the anticipated heavy lifting operations taking place across such a large site.

The Tower Crane Scheme

The intricacies of the tower crane scheme are a testament to the engineering precision required for such a colossal project:

- TC1 WOLFF 630 B:** 70m jib, 41.9m tower, max capacity 28t (4.5t at 70m). KR12-60/80 cruciform base supported at 7m x 7m centres at 36.700m, 190t ballast.
- TC2 WOLFF 700 B:** 70m jib, 41.9m tower, max capacity 30t (4.5t at 70m). KR12-60/80 cruciform base supported at 8m x 8m centres at 36.700m, 140t ballast.
- TC3 WOLFF 630 B:** 70m jib, 44.5m tower, max capacity 28t (4.5t at 70m). KR16-80 cruciform base supported at 7m x 7m centres at 36.700m, 195t ballast.
- TC4 WOLFF 630 B:** 70m jib, 42.3m tower, max capacity 28t (4.5t at 70m). KR16-80 cruciform base supported asymmetrically at 8m x 8m x 7.5m x 7.5m centres at 36.700m, 190t ballast.
- TC5 WOLFF 500 B:** 60m jib, 45m tower, max capacity 30t (6t at 60m) with foundation anchors.
- TC6** In late March 2024, TC5 will be dismantled down to the slew ring using a 500t mobile crane. It will then be moved from the TC5 tower straight onto a new tower erected the week before, to become TC6. The rest of the crane will then be assembled and the 500t mobile dismantled – and all in just three days.

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Wolffkran Crane Supervisor & Coordinator Irena Stec sums it up: *“We are using five huge, heavy-lifting luffing cranes on the project, capable of lifting 30T on their tightest radius, reducing to 6T when fully extended. Coordinating those cranes to work in harmony on a site of this scale, while minimising downtime and staying within their lifting capacities makes it a real challenge.”*

Additionally, there are a lot of complex lifts to be completed. These often require lifting accessories that have been specially made for this project, including lifting beams, cantilever beams and electronically operated beams.

“The other significant challenge we face is that it’s a very exposed site, so poor weather conditions can really affect our ability to work safely, and we find we can be frequently winded-off.” Irena told us.

Ensuring Safety and Efficiency

At the heart of this operation are the WOLFFKRAN Crane Coordination Team, tasked with overseeing the seamless execution of the lifting plans. Their responsibilities include ensuring that site conditions align with the lifting plan, monitoring weather conditions, overseeing equipment maintenance, reviewing, and approving subcontractors, and taking charge of the day to day lifting operation so it all goes smoothly. Effective communication within the crane team is paramount, and any issues encountered during the lifting operation are promptly reported to the Crane Coordination Team.

“What really stands out to me, is that at Wolffkran we have a very good lifting team, with everyone working together as a really tight knit group” commented Irena. *“On a day shift we typically have one Appointed Person, two Supervisors and eight Operators, and the communication and teamwork we have makes a huge difference to our effectiveness on site.”*

1Guava Streamlines Construction Management

Through using the [1Guava](#) platform, Mace is revolutionising site lifting operations. To allow the Powergate project to maximise crane usage and minimise downtime, Wolffkran installed the revolutionary 1Guava app in each of the cranes. This facilitates the seamless management and monitoring of lifting plans, allowing for real-time progress tracking, monitoring of equipment usage, and evaluation of contractor performance.

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“Through 1Guava, we allocate specific lifts and schedules to each of the crane operators for the various trades at the start of every day” explains Irena. “Part of my role is to ensure the operators are completing those lifts and filling in their logs correctly. But I can also monitor if trades aren’t maximising their lift time and potentially re-allocate the lift time to another user.”

Each crane cabin is equipped with a tablet, mounted via a strong suction cup, which is pre-installed with the 1Guava app. Wolffkran Appointed Person Philip Quicoe explains how they are used. *“Upon powering on, the tablet displays all the participating contractors’ logos. The operator simply taps on contractor’s logo to start recording crane usage by that contractor. A second tap is all that’s required to stop recording. Additional icons allow the operators to indicate wind-offs, breakdowns, or maintenance activities.”*

This simple process provides the management team with valuable, real-time data on crane performance and utilisation by each subcontractor, whilst promoting increased accountability and efficient resource allocation.

“For crane operators, remembering to fill out paper utilisation sheets was a tedious and error-prone chore” continued Philip. “Marking 30-minute intervals regardless of actual usage led to inaccurate data, and manually delivering time sheets to the office was time-consuming and inconvenient. 1Guava streamlines the operators’ workflows by eliminating that paperwork. Instead, usage data is automatically captured, eliminating the need for manual entries, and reducing errors. And no more trips to the office with time sheets or having to send them via WhatsApp, which saves time and ensures accuracy.”

It's easy to see how 1Guava makes the crane operator’s job easier, but the site management team gain even more. The operator’s inputs convert to real-time data allowing management to check crane activity minute-by-minute, ensuring tasks stay on schedule and identifying potential delays. *“We can analyse individual contractor usage patterns to optimise resource allocation and avoid bottlenecks. But it also lets us understand reasons for idle periods and lets us re-allocate under-utilised cranes. And because 1Guava captures precise usage data, this ensures fair and transparent billing with all contractors”* concluded Philip.

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Conclusion

In conclusion, this data centre project for Mace is undeniably huge in scale with challenges in terms of lift area and weight. But Wolffkran have used all the tools at their disposal to ensure the project is completed swiftly, safely and efficiently. Using a combination of the largest luffing cranes on huge cruciform bases with enormous ballast, a truly dedicated team of lifting professionals to safely carry out the work, and the very latest technology to allocate and record the work, Wolffkran have made the almost impossible seem almost easy.

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To find out how Wolffkran can take the weight of your next lifting project, please visit www.wolffkran.com

WOLFFKRAN is a leading manufacturer of premium quality tower cranes with a tradition spanning over 150 years. With its own rental fleet of some 800 tower cranes it is also one of the largest crane rental businesses in the world. WOLFFKRAN is headquartered in Zug, Switzerland and has manufacturing sites in Heilbronn and Luckau, Germany. It currently employs a global workforce of approx. 860 people in its two manufacturing sites and its sales and service subsidiaries located across Western and Central Europe, the Middle East and the United States.

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