

**THE
HEAVYWEIGHTS
THAT MOVE
DEADLINES
FORWARD**

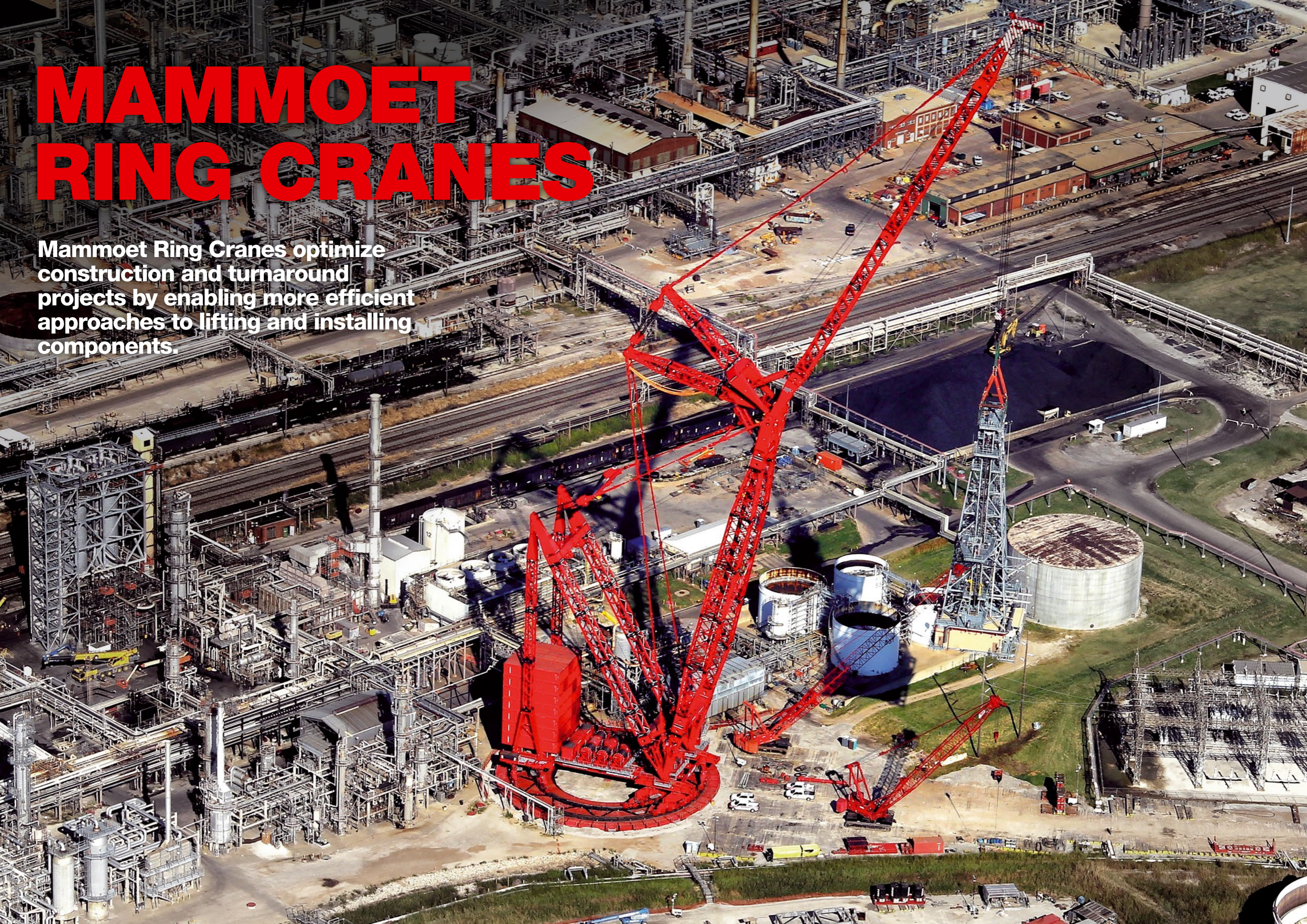
**MAMMOET
RING CRANES**



 **MAMMOET**
**THE BIGGEST THING
WE MOVE IS TIME**

MAMMOET RING CRANES

Mammoet Ring Cranes optimize construction and turnaround projects by enabling more efficient approaches to lifting and installing components.





Ring Cranes offer solutions when oversized and heavy objects have to be installed or upgrades need to be carried out in congested areas. They answer a wide variety of today's lifting challenges by combining lifting capacity - up to 5,000 metric tons - with a long reach, relatively small footprint, flexible configuration and quick mobilization.

In response to the need for improved productivity and efficiency, industrial facilities are increasing in scale. At the same time, existing production sites are becoming more complex and crowded as they are expanded and improved, significantly reducing the amount of maneuvering space for construction equipment. These trends make construction and turnaround projects logistically challenging, with oversized loads needing to be lifted higher and at a bigger radius, within confined spaces.

As early as 1996, Mammoet foresaw the need for a new generation of advanced heavy lifting equipment; a crane to meet the lifting challenges of the future, facilitating developments in plant construction and turnaround projects. In such projects, the installation of oversized and heavy components defines or impacts the critical path.

Ring cranes provide significant improvements in construction and turnaround efficiency.

Mammoet understands that each project has different needs so we created a powerful, compact and flexible crane, available in a range of configurations, to meet the demands of projects of today and tomorrow.

In order to meet the current and future needs, Mammoet brought together all its expertise in engineered heavy lifting. This led to the development of the Mammoet Ring Crane:

a containerized crane, mounted on load spreaders and a large steel ring. Since 1996 Mammoet has continued to further improve the Ring Cranes, based on the company's growing expertise and market demands. The Ring Crane's unique design incorporates a number of different features, making it the most versatile crane on the market.

ADVANTAGES

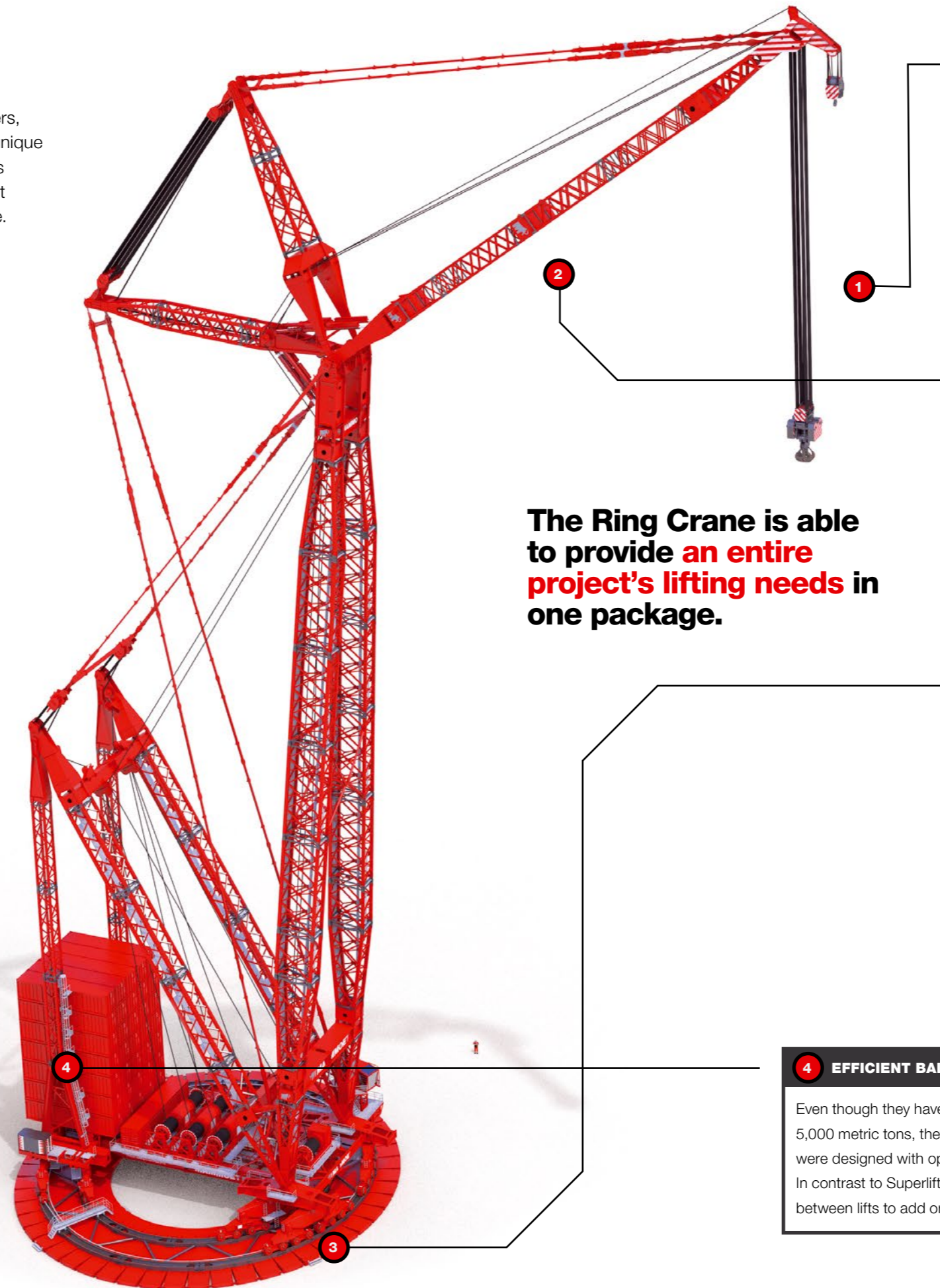
1. Lifting capacity up to 5,000 metric tons
2. Long reach
3. Small footprint
4. Efficient ballasting system
5. Simple mobilization and relocation
6. Safe
7. Maximum reliability

Because the counterweight is positioned on the ring, Ring Cranes don't need any additional space to slew, allowing an efficient use of available space.



The Mammoet Ring Cranes have a unique design

Ring Cranes can be configured up to a hoisting height of 250 meters, but can also withstand high wind speeds. In many situations, the unique design of Mammoet's Ring Cranes allows them to execute projects more efficiently. They can open up new approaches for component exchanges, saving time and making operations more cost effective.



1 LIFTING CAPACITY UP TO 5,000 METRIC TONS
 Capable of lifting loads up to 5,000 metric tons, they allow construction and turnaround projects to take place using bigger and heavier modules or components, bringing forward commissioning times and improving risk management.

2 LONG REACH
 The Ring Crane's reach, with a hoisting height up to 250 meters, enables it to be located in the most convenient position on site. This may be out of, yet next to, the 'live' environment of an industrial facility, reducing the amount of interference with other operations.

3 SMALL FOOTPRINT
 Ring Cranes are amongst the biggest cranes in the world, yet they have a relatively small footprint. Its circular base provides the Ring Crane with low ground bearing pressure, reducing the need for ground reinforcements. Its ability to turn 360 degrees makes it flexible and agile. Because the counterweight is positioned on the ring as well, the cranes do not need any additional space to turn, allowing for the most efficient use of available space possible.

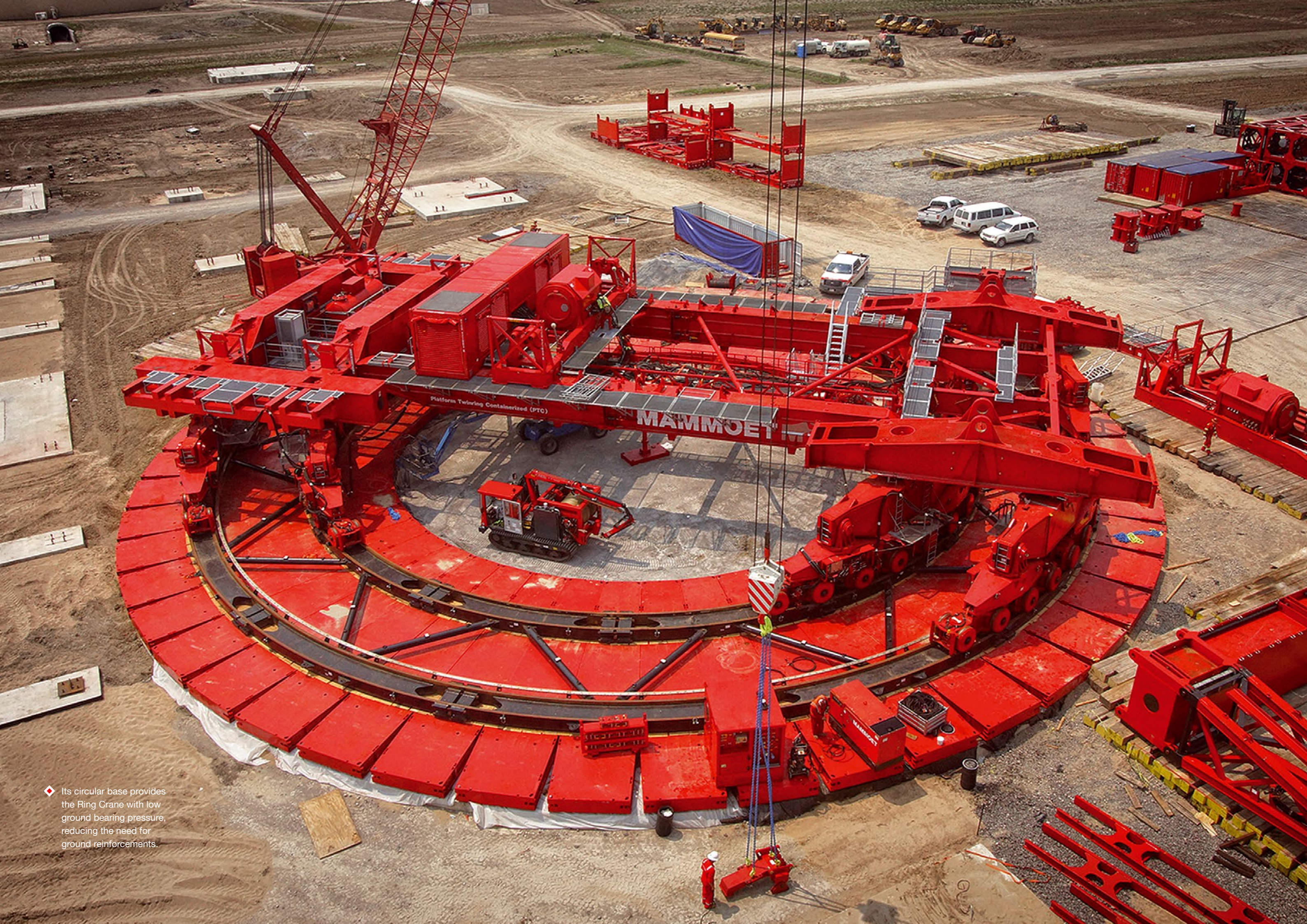
4 EFFICIENT BALLASTING SYSTEM
 Even though they have the capacity to lift loads up to 5,000 metric tons, they are agile and fast. Ring Cranes were designed with optimal operational efficiency in mind. In contrast to Superlift cranes, they do not have to pause between lifts to add or remove ballast.

7 MAXIMUM RELIABILITY
 Ring Cranes have unique features to enhance reliability including built-in redundancy measures on the electric and hydraulic systems. All the cranes are subject to strict maintenance programs and are regularly subjected to recertification audits to ensure maximum uptime.

6 SAFE
 All Ring Cranes have been built according to the highest safety and design standards, as verified by Lloyd's Register. In addition, the cranes are tested by the American National Standards Institute (ANSI). All our Ring Cranes have been equipped with safe walkways and other fall protection measures for riggers erecting the crane. By working with clients to optimize their logistics chains and lifting plans we find ways to minimize other risks.

5 SIMPLE MOBILIZATION AND RELOCATION
 Ring Cranes are containerized, making them easy to transport and (de)mobilize. Most Ring Cranes can also be moved by means of crawlers or SPMTs while remaining assembled, making on-site relocation simple and efficient.

The Ring Crane is able to provide an entire project's lifting needs in one package.



◆ Its circular base provides the Ring Crane with low ground bearing pressure, reducing the need for ground reinforcements.



MAMMOET'S FLEET OF RING CRANES

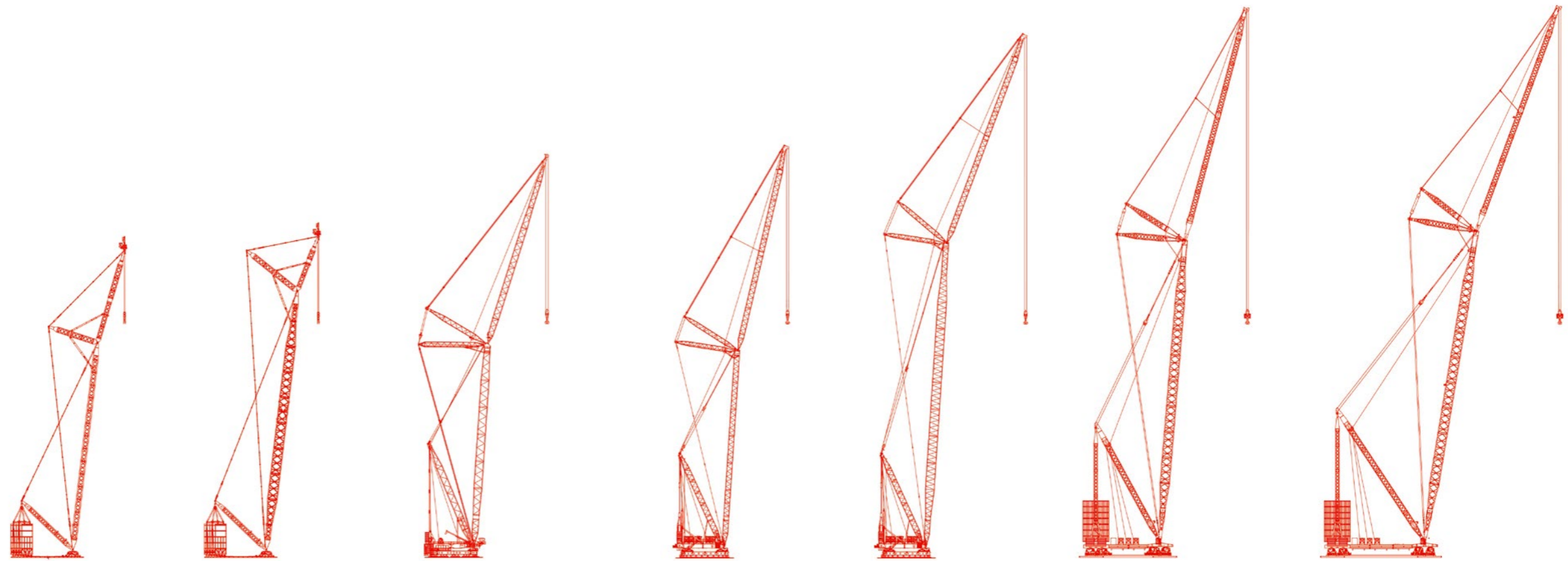
The different models in Mammoet's fleet offer versatility in their configuration, type and size, allowing customers to choose the right balance of load and radius for their needs. Further efficiencies may be realized by using just one Ring Crane to provide all of a project's lifting needs in a single package, saving time and money on hiring and erecting multiple cranes.

To meet the constantly evolving demands of construction, outage and shut-down projects, Mammoet's Ring Cranes are available in a variety of configurations. A global pool of containerized cranes enables swift mobilization to projects around the world. Through decades of market-leading innovation, the Ring Crane fleet has evolved to deliver the lifting power to unlock more efficient ways of working for our clients.

The MSG was first designed and built in 1996 to deliver flexible, high strength lifting capacity in limited spaces. In response to demands from the market for more powerful cranes with longer, higher reach, Mammoet developed the PT 50, PTC 35, PTC 140 and PTC 200 in subsequent years. Over these years, we have continuously improved the design of our Ring Cranes, introducing new innovations with every subsequent model.

Mammoet Ring Cranes can be swiftly mobilized anywhere in the world.

MAMMOET RING CRANES OVERVIEW



MSG 80

MSG 80-DS

PT 50

PTC 35

PTC 35-DS

PTC 140-DS

PTC 200-DS

Maximum main boom length (m)	101.2	89.8	124.7	97.3	121.1	140	140
Maximum main boom + jib (m)	92.6 + 43	115.5 + 26.2	90.4 + 87.5	87.1 + 99	134 + 99	140 + 106	140 + 106
Load moment (tm)	80,000	80,000	50,000	35,000	35,000	140,000	200,000
Maximum load (t)	3600	3600	2000	1600	2000	5000	5000
Ring diameter	27.2 + 30.7	27.2 + 30.7	21.5	21.5	21.5	29.8 + 39.4	39.4 + 49.5
Minimum operating temperature (°C)	-25	-25	-25	-25 / -40	-25 / -40	-40	-40
Maximum operating temperature (°C)	+55	+55	+55	+55	+55	+55	+55

- MSG: Mammoet Sliding Gantry
- PT: Platform Twin-Ring crane
- PTC: Platform Twin-Ring Containerized crane

THE RIGHT CRANE IN THE RIGHT HANDS

The versatility of the range of Ring Cranes, combined with our operational experience, enables Mammoet to provide customers with a tailor-made plan for each project. We use our understanding of the technical possibilities of our Ring Cranes, and experience from jobs in a wide variety of circumstances, to find the best possible solution to any identified bottlenecks or obstacles. Mammoet's Ring Cranes have undertaken tens of thousands of lifts making them a proven and reliable choice for clients.

THOROUGH PREPARATION

Thorough and careful preparation, in combination with operational expertise, ensures all risks are skillfully managed and safety is guaranteed. Our operators' experience in assessing local conditions enables them to find the most effective lifting approach. They are familiar with the challenges of assembling and erecting the Ring Cranes in tight locations and all assembly and lifting plans take into account local conditions and limitations.

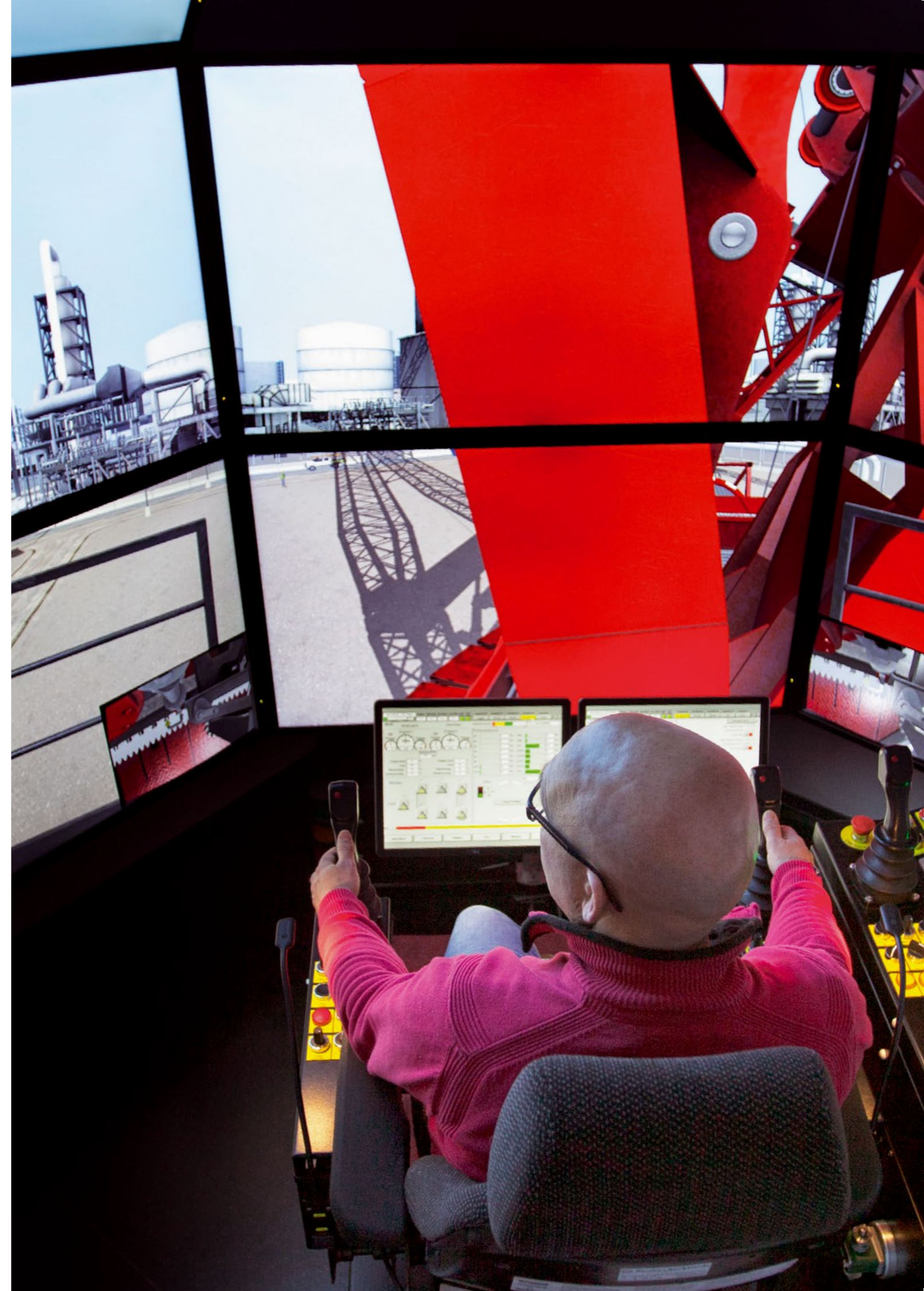
PTC SIMULATOR

The Mammoet Training Center in the Netherlands has a PTC Simulator, purposely built to teach operators how to handle the PTC 140/200-DS. The simulator provides a realistic PTC experience long before the crane is erected at the job site. A virtual model of a client's facility and the component that needs to be lifted can be programmed to carry out demonstration lifts, and the software is used to make an extensive risk assessment.

HELPING THE ENVIRONMENT

Our expertise enables us to identify opportunities at the planning, preparation and execution stages of each operation to reduce waste, use less energy and manage risks safely. Reduced emissions, both from efficient power systems and the containerized mobilization of our cranes, minimizes the environmental footprint of our Ring Cranes. The use of natural green ballast, such as gravel or sand, further limits our environmental impact.

**All cranes are certified
by Lloyd's Register.**





THE BIGGEST THING WE MOVE IS TIME



At Mammoet, we provide solutions for lifting, transporting, installing and decommissioning large and heavy structures.

We could talk for hours about the equipment we use, and about how sophisticated and powerful it is. But all that power means nothing without a plan. In fact, we believe our business isn't about size. It's about: time.

Uptime. Turnaround time. Time to market. To our customers, time is the currency that matters most. That's why we strive to bring their deadlines forward. It's an integrated, daily effort shared by everyone at Mammoet.

That's how we move time for our customers.

So time isn't set in concrete. Or forged in steel.

It's not even all that heavy.

And yet, it's the biggest thing we can move for you.

Discover more on www.mammoet.com    

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Would you like to get in touch? Please find your nearest Mammoet regional head office here.



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