

# **DRIVING HEAVY TRANSPORT TO NEW LEVELS OF EFFICIENCY**

**MAMMOET  
TRAILER  
POWER ASSIST**









# **MAMMOET TRAILER POWER ASSIST**

**Mammoet's new Trailer Power Assist system brings deadlines forward, improving efficiency and safety while significantly lowering the carbon footprint in engineered heavy transport.**







**With industries around the world increasingly relying on heavy transport to facilitate construction projects at ever-larger scales, Mammoet Trailer Power Assist saves time, saves fuel and reduces the equipment requirement for heavy transport operations.**



Modularization and a factory-to-foundation approach are changing the face of large-scale construction around the world. Often it is safer and more efficient to fabricate the components for a new facility in a controlled environment than it is to stick-build them on location. However, this approach calls for methods of transport with the capacity to

move oversize loads across vast distances quickly, safely and efficiently.

Traditionally, there have been two ways of hauling heavy modules over land with contemporary equipment. Self-propelled modular transporters (SPMTs) provide excellent traction and control but only reach

**With a maximum drive speed of 28km/h, Mammoet Trailer Power Assist can transport a load much faster than using SPMTs that typically travel at a speed between one and three kilometers per hour.**



speeds of three or four kilometers per hour, or as little as one kilometer an hour going uphill. Alternatively, multiple prime movers and trailers can be combined to push-pull a load at a greater speed, but precise coordination of numerous drivers for long periods of time increases project complexity and risk, and using several prime movers means a more significant carbon footprint. Last but not least, transporting oversized objects often calls for road closures and causes long periods of congestion for other road users.

Answering the need for a powerful solution that delivers speed, simplicity and efficiency, Mammoet has worked with one of the leading transport equipment manufacturers Scheuerle to design Trailer Power Assist (TPA). This system reduces the number of trucks required to pull and steer an oversized load, while delivering greater speed, fuel efficiency, versatility and safety.

Each TPA trailer consists of six axle lines, the middle four of which are driven by a 1,000 horsepower hydraulic Power Pack Unit. With 32 wheels across the four driven axle lines, one TPA unit requires half the weight to deliver the same traction as the four axles and 16 wheels of two typical prime movers. This significantly reduces the combined weight of a transport and provides an additional advantage on slippery or icy roads. TPA's hydraulic motors can also be used in a braking function on downhill sections of the route, reducing wear and tear on the brakes and providing extra control.

With an increasing number of facilities being constructed in more remote locations, TPA has been built to withstand extremes of temperature and climate. Alongside improved efficiency, it delivers maximum reliability to meet the demands of projects today, and tomorrow.

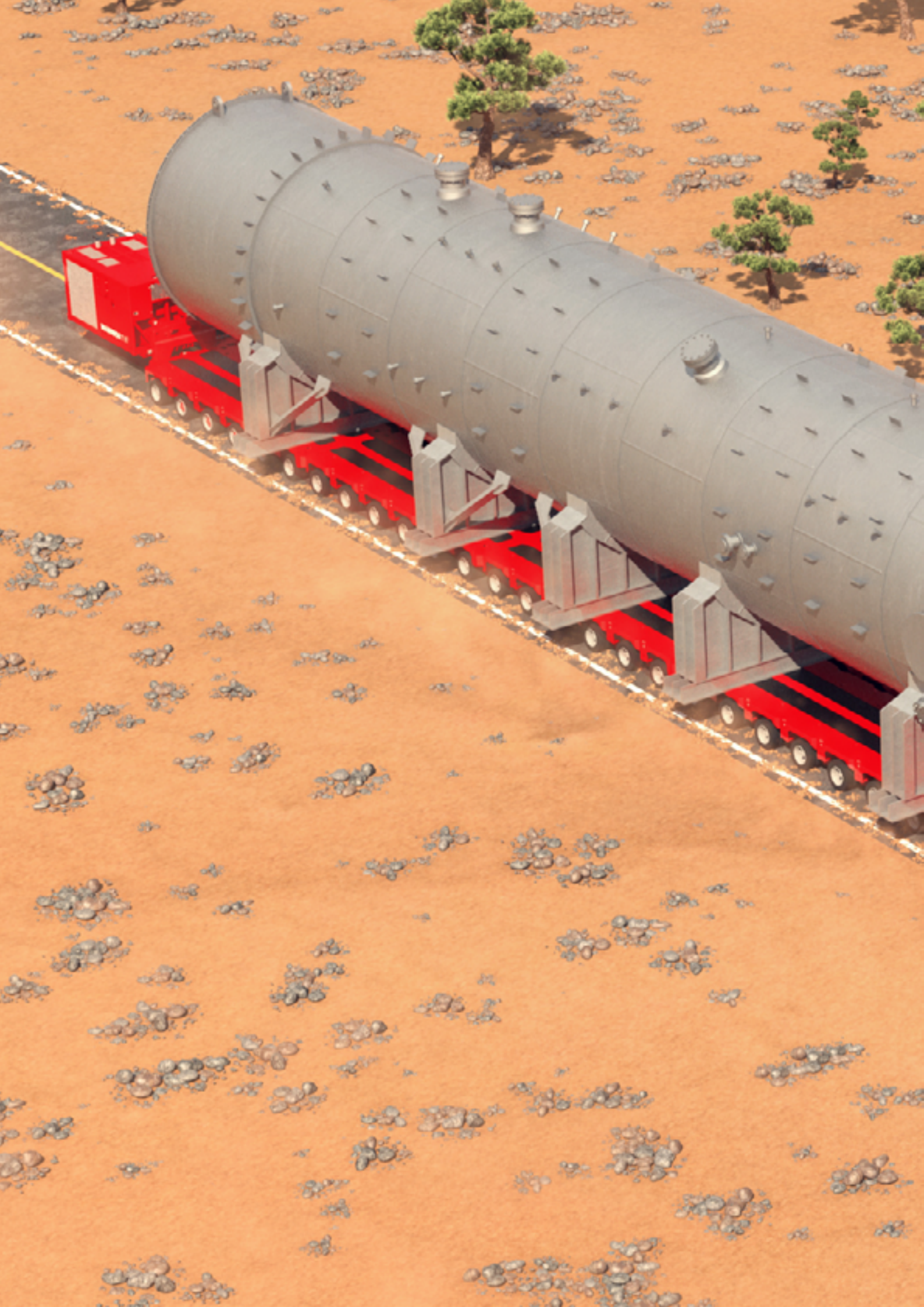
## ADVANTAGES

1. Maximum traction
2. Speed
3. Drive axle reliability
4. Resilient in extreme temperatures
5. A safer solution
6. Freewheel mode boosts efficiency
7. High precision maneuverability

**Delivering twice the traction of a prime mover, a Mammoet Trailer Power Assist unit significantly reduces the overall weight and length of a transport, and the complexities of steering and braking multi-truck configurations.**













# The revolutionary design of Mammoet Trailer Power Assist

Working in collaboration with one of the leading transport equipment manufacturers Scheuerle, Mammoet has designed a hydraulic-powered trailer system that will reduce the requirement for tractor units on heavy hauls, while improving safety, sustainability and overall efficiency...

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## **FREEWHEEL MODE BOOSTS EFFICIENCY**

When a Mammoet Trailer Power Assist unit is not in use, it can be pulled in freewheel mode by a prime mover at regular highway speeds. The trailer's Power Pack Unit is switched off, meaning less fuel is used when operators need to transport the system from one location to another or return to base, reducing carbon footprint and fuel costs.

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## **HIGH PRECISION MANEUVERABILITY**

Once a load reaches its destination Mammoet Trailer Power Assist trailers can be driven in 'creep mode', similar to an SPMT. Using its separate control unit, it can be operated with fine levels of control for precision positioning of the load.



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## **A SAFER SOLUTION**

Synchronizing the acceleration, braking, gear changes and steering activities of all the drivers is one of the most challenging elements of a multi-truck haul. TPA systems can be used in a variety of configurations with just one or two drivers, reducing complexity and improving safety. And, because one TPA unit delivers the same power as two prime movers, one truck and six TPAs can deliver the same power as at least 13 tractor units, greatly reducing the overall weight of the transport.

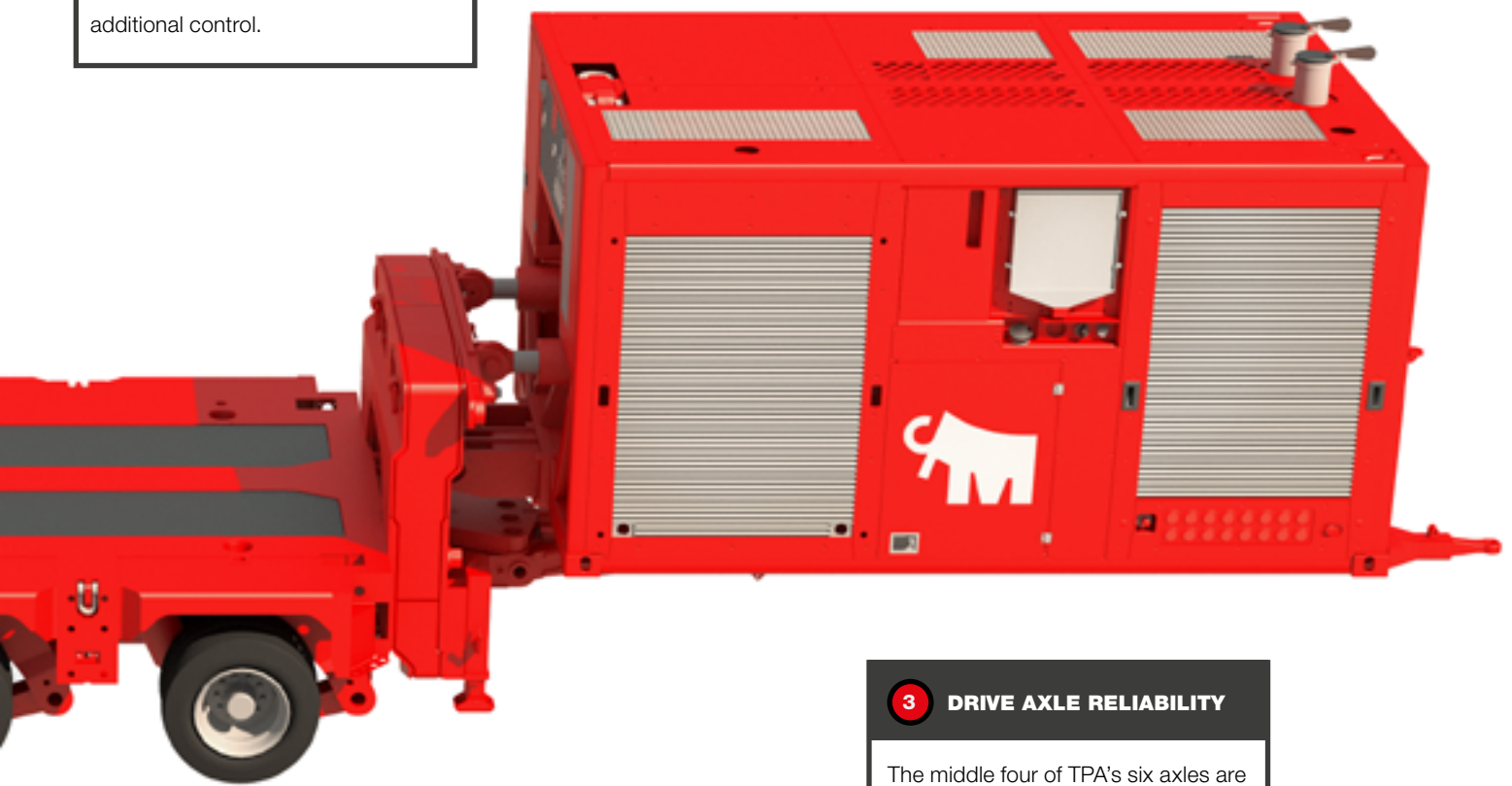


## 1 MAXIMUM TRACTION

Mammoet Trailer Power Assist's Power Pack Unit consists of a 1,000 horsepower MTU V12 diesel engine driving a hydraulic motor system. One TPA generates 40 tons of traction force – more than any other product in the self-powered trailer category. In addition to its pulling force, the hydraulic drive system can be used in a braking capacity when going downhill, protecting disc brakes from wear and tear and giving the operator additional control.

## 2 SPEED

A configuration of six TPA trailers and two prime movers can transport loads up to 2,000 metric tons at up to 28km/h – which is up to 20 times the speed of a self-propelled modular transporter (SPMT) solution – with one-third the fuel consumption. Above 28km/h, the TPA's power unit will switch off but the prime movers can then pull the load at up to highway speeds, greatly improving timelines as well as the sustainability of heavy transport projects.



## 4 RESILIENT IN EXTREME TEMPERATURES

Mammoet Trailer Power Assist is the ideal heavy transport solution whenever projects take place in locations with harsh climatic conditions. The system has been designed to operate in environments with temperatures as low as -40°C and as high as 50°C. And, because the TPA's power is distributed to twice as many wheels as with a truck, greater traction is achieved on snowy or icy roads.

## 3 DRIVE AXLE RELIABILITY

The middle four of TPA's six axles are powered by its unique hydraulic drive system. Each powered axle has its own independent hydraulic pump. In the unlikely event that one axle should fail, the remaining three will continue delivering traction, circumventing project delays. Meanwhile, intelligent gearbox synchronization ensures that gear changes occur in sequence across the axles rather than all at once. That way there's no sudden loss of traction across the axles when speeding up or slowing down.





# WORKING WITH MAMMOET

## A COMPLETE SOLUTION

As the global market leader in engineered heavy lifting and transport, Mammoet offers a state-of-the-art fleet of cranes, jacks, skidding systems, SPMTs and more. The addition of Trailer Power Assist to our range of equipment enables us to offer customers a comprehensive lifting and transport solution that is backed up by a 200-year history delivering engineering expertise.

**Up to six TPA trailers can be combined, delivering pulling force equivalent to that of 12 prime mover trucks.**

## WORKING WITH MAMMOET

The advantages that Trailer Power Assist brings, combined with Mammoet's planning, engineering and logistical expertise, enables us to plan tailor-made heavy transport solutions for our customers. With our in-depth understanding of TPA, SPMTs and conventional tractor-trailer transport, and our experience executing heavy transport projects for clients in a range of industries around the world, we can find the optimum solution, shortening the critical path and ensuring the most efficient outcome.





**Mammoet Trailer Power Assist's **Power Pack Unit** uses a 1,000 horsepower diesel engine that is compliant with the latest emission control regulations.**

**PLANNING AND EXECUTION**

Our project managers, engineers and dedicated logistics team will gain a thorough understanding of the load, survey the proposed route and plan for any mitigating factors that could arise during transport. We'll select the right configuration of trucks and TPA units and supply a team of operators who are experienced with the challenges of safely maneuvering heavy loads up and down inclines and round tight turns on public and private roads.

**THE SUSTAINABLE CHOICE**

One Mammoet Trailer Power Assist unit provides the equivalent power output of two trucks, but will consume at least seven gallons of fuel less per hour at maximum output. And the savings don't end there. With a conventional heavy transport system, each truck needs to be driven back to its point of origin after a delivery, which burns fuel. With TPA's frictionless freewheel mode, units can be towed with their engines off further reducing the carbon footprint of a project.







## MAMMOET HAS OVER 140 OFFICES AND BRANCHES WORLDWIDE.

Below are the Mammoet regional head offices on each continent. To contact an office near you, please visit [www.mammoet.com/contact](http://www.mammoet.com/contact) and select 'Find an office'.



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