

**EFFICIENT
PRECISION
TRANSPORT**

**MAMMOET
SELF PROPELLED
MODULAR
TRANSPORTERS**



 **MAMMOET**

SMARTER, SAFER, STRONGER



MAMMOET SELF PROPELLED MODULAR TRANSPORTERS

Mammoet's Self Propelled Modular Transporters (SPMTs) allow large and heavy loads to be transported and maneuvered with millimeter precision. They can move modules, components and entire structures safely and efficiently.





Across industries, there is a continuous quest for greater efficiency and, hence, economies of scale. This has resulted in a steady increase in the height, size and weight of modules, components and structures.



Transport of 340 tons transformer
on double wide 28 axle line SPMT

At the same time, congested sites and successive plant expansions often mean that working space is limited or physical obstacles need to be overcome during a project's execution. These developments call for transport equipment that offers sufficient capacity, high levels of maneuverability and a large degree of accuracy. Equipment that can be tailored to each specific situation. In such cases, Mammoet's Self-Propelled Modular Transporters – or SPMTs - are a reliable, safe and efficient transport option.

SPMTs are compact platform vehicles that can be used to move heavy loads. They are modular and the units can be connected for a higher cumulative capacity. When the modules are connected, they can be used as a single vehicle and controlled by one operator. Mammoet and Scheuerle jointly launched the first SPMT in 1984. This has had a significant impact on the way construction and maintenance projects in heavy industries are executed. Working closely with SPMT manufacturers, we have incorporated innovations based on our

Many safety features that were once introduced by Mammoet, have become industry standards.

vision, ideas, and understanding of the transport challenges at hand. Among others, our efforts have helped extend the limits of modular construction, contributing to faster and safer construction methods. Mammoet has a unique fleet of SPMTs that is unparalleled in both size – more than 3,200 axle lines - and capabilities. Additionally, this fleet is deployed by a team of professionals with unique levels of expertise in designing and delivering SPMT-based transport solutions.

Our SPMTs offer unique features such as the capability to work at full payload at temperatures as low as –40 degrees Celsius. Mammoet can also offer SPMTs

with an adjustable widening system that eliminates the need for a double width SPMT configuration while transporting relatively light loads with a high center of gravity, making the whole transport operation more cost-effective. No other company has as extensive operational experience working with SPMTs as Mammoet. By combining the capabilities of our equipment with the expert knowledge of our staff, Mammoet provides clients with the safest and most efficient approach for each SPMT project.

ADVANTAGES

1. Flexible and agile
2. Can transport almost any object
3. Operational under the most extreme conditions
4. Easy and swift mobilization
5. Multi-system compatible
6. Minimal environmental impact
7. Low ground bearing pressure

Mammoet SPMTs can be combined with other systems to deliver efficient solutions for a wide range of projects



Mammoet SPMTs offer the following advantages:

LOW GROUND BEARING PRESSURE 7

All of Mammoet's SPMTs have been equipped with air-filled tires, which have a lower ground bearing pressure than foam filled ones. Working with these tires reduces the need for additional ground reinforcement and insures that the working surface does not get damaged.



MINIMUM ENVIRONMENTAL IMPACT 6

All of Mammoet's SPMTs have been equipped with features that help minimize impact on the environment. Regular SPMTs are equipped with an on-off cooling system. Mammoet's SPMTs have an advanced Bodas system that monitors the engine temperature and provides the exact amount of cooling the system needs. They have also been equipped with a start-stop system that reduces the amount of fuel used while remaining stationary. During maintenance, the oil is filtered and, if it still meets quality standards, is re-used. The fuel can be combined with AdBlue to reduce the level of oxides of nitrogen emitted from engines.

FLEXIBLE AND AGILE 1

SPMTs offer a wide range of movement options. They are capable of steering 360 degrees and each axle can move independently. This enables them to carrousel and move sideways. They can also be used to transport objects forward, backward or at an angle. In addition, specialized programs ensure that loads can be transported and placed with millimeter precision, making them ideally suited for use on congested or restricted sites.



**Precise maneuvering,
virtually unlimited
capacity**

2 CAN TRANSPORT ALMOST ANY OBJECT

SPMTs are modular; a grid of axles is fitted with an engine and steering system controlled by a single operator. The grid can be mechanically coupled in a line, side-to-side and/or head-to-tail or they can be grouped freely by data link. This flexible system provides an efficient solution for each project while ensuring a high level of safety at all times.

3 OPERATIONAL UNDER THE MOST EXTREME CONDITIONS

Some of Mammoet's SPMTs are specially adapted for extreme conditions. Features such as a spine beam - made of high-grade steel - cold adapted rubber, special hydraulic additives and/or an auxiliary heating unit, allow them to work at full payload up to -40 degrees Celsius. Mammoet also has SPMTs that have been equipped with a special cooling system that allows them to remain operational for extended periods of time in extreme heat.



4 EASY AND SWIFT MOBILIZATION

Due to their compact size, SPMTs are easily transported and mobilized. They have the same width as a standard-sized shipping container, allowing them to be transported on flat racks. This means they can be shipped in the fastest and most cost-effective way to virtually any location.

5 MULTI-SYSTEM COMPATIBLE

Mammoet's SPMTs can be combined with other Mammoet systems to open up an even wider range of movement options. They can be combined, for example, with Mammoet's jacking system to move objects vertically. Equipped with a special frame, SPMTs can also be used for tailing operations alongside cranes and gantries.



◆ Each axle can move independently





MAMMOET'S FLEET OF SPMTs

Mammoet has the largest SPMT fleet in the world, with more than 3,200 axle lines, based at strategic locations.



This means Mammoet's SPMTs can be mobilized swiftly around the world, meeting capacity demands from the smallest to the largest projects. Our fleet offers a variety of configurations, allowing customers to choose the right configuration for each job, based on 4, 5, 6 and 8 axle line trailer units. We can also offer SPMTs with an adjustable widening system as well as SPMTs adapted to extreme hot and cold temperatures.

RELIABLE FLEET

Every year, each SPMT trailer unit at Mammoet undergoes extensive maintenance by our expert staff to ensure a safe and reliable operation. In addition to regular maintenance activities, all of the sensors are tested, the software is updated and the SPMTs are subjected to payload tests at our dedicated SPMT testing facility. This annual 5-day maintenance period ensures that each SPMT fully complies with factory standards. Mammoet also deploys a mobile maintenance workshop that provides on-site support on projects.

SPMTs can be adapted to extreme hot and cold temperatures

SAFETY

Mammoet's fleet meets the highest safety standards and keeps improving. From the introduction of the first SPMTs in 1984, Mammoet has been dedicated to developing safety improvements for the fleet. In fact, many safety features that were once introduced by Mammoet have now become industry standards. Some of Mammoet's most recent innovations include safety railings that can be used while working on top of an SPMT, LED lights that illuminate the area underneath an SPMT and a Dynamic Stability Verification Program - a new, DNV approved, method for calculating dynamic load stability.

MAMMOET'S SPMT OPERATORS

Mammoet has developed an in-house training program for our staff. Mammoet's operators are required to pass several theoretical and practical exams and work under the supervision of a mentor for a significant period of time before they start working on their own. The program ensures that all of our operators meet the highest professional standards.

WIDE RANGE OF AUXILLIARY EQUIPMENT

In addition to the fleet of SPMTs, Mammoet has an extensive auxilliary equipment inventory. It includes a wide range of add ons such as load spreaders, girder frames, turn tables and jacking saddles, that allow us to adapt our SPMTs to each specific job.

**Mammoet's SPMT operators
comply with the highest
professional standards**



www.mammoet.com

MAMMOET

SPMT INNOVATIONS

Increasing efficiency while making transport safer. Discover how Mammoet's latest SPMT innovations can optimize your transportation projects.

DYNAMIC STABILITY

In recent years, loads have increased in size and weight. Simultaneously, the axle load capacity of trailers has increased. This increase in scale makes it vital to have exact transport engineering calculations. With this in mind, Mammoet developed a Dynamic Stability Verification Program - a calculation method that incorporates the effects of multiple dynamic forces such as wind and acceleration. This program ensures a higher level of safety and provides clients and operators with more detailed information about their projects. It also helps with the design of more efficient transport approaches. Dynamic Stability was developed in-house and has been verified and approved by classification society DNV.

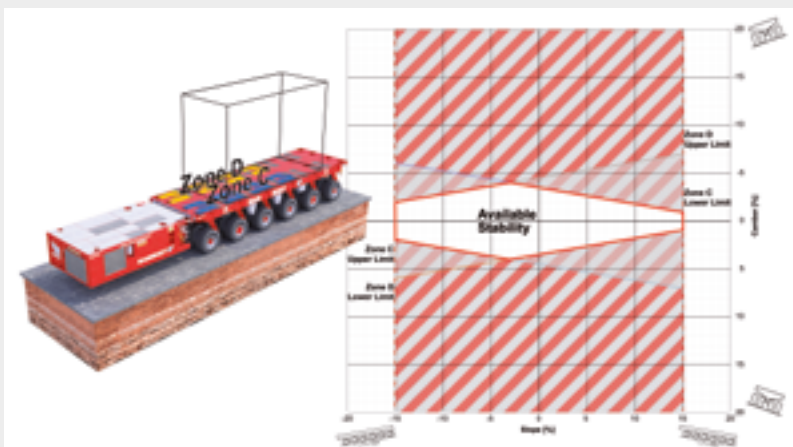
More information:

www.mammoet.com/dynamicstability



MAMMOET'S ADJUSTABLE WIDENING SYSTEM

In heavy transport, high and wide loads with a high center of gravity – such as large pipe rack modules – are typically transported on multiple rows of SPMTs to enhance safety and stability. In many cases, the increased load capacity that comes with the additional trailer units is not required. This is where Mammoet's Split SPMTs can offer advantages. Bolted together, the SPMT can be used as a regular 6-axle line SPMT. Extended, the SPMT offers the same amount of capacity with twice the breadth - increasing the width of the loading platform and the stability of the load, without the need to add more SPMT trailer units. This makes transporting such loads significantly more cost-effective.



CUSTOMIZED SOLUTIONS

Our SPMTs can be equipped with one of our customized solutions, such as our jacking crate system. By alternating the use of a trolley and a lifting arm to stack both the foundation crates and the support crates, this system reduces the need for manual handling. The system makes jacking operations safer, and makes it easier to conduct jacking operations in cold environments.



REDUCING IDLING

Mammoet's SPMTs can be equipped with auxiliary power pack units (APU) when working in extreme cold temperatures. APUs not only reduce fuel consumption, they also reduce the waste of oil, lubricants and cooling fluids and they maintain a good working temperature for the hydraulics, electronics and batteries.

OTHER INNOVATIONS INCLUDE:

- Bolt on frames for the PPU so we can place it at the side of the deck (as opposed to the end) which is perfect for tight spaces where you run into obstructions.
- Bolt on adaptors for additional tie down / lashing points
- Bolt on adaptors for connecting trailers when longer c/c spacing
- Spacers that extend the length of the SPMT without adding extra axle lines.

SPECIALIZED SOFTWARE PROGRAMS

In addition to mechanical innovations, Mammoet's SPMTs are also equipped with several specialized software programs. Mammoet's inching system allows SPMTs to operate at travel speeds as low as 10 meters per hour, a feature that can offer advantages when transporting loads with a high center of gravity. The 16 point lifting program allows operators to conduct synchronized operations with transport groups that have a significant amount of distance between them, offering advantages when transporting large objects. Mammoet is the only organization that has successfully applied these programs in practice.

Our SPMTs can be equipped with one of our customized solutions or innovations.



302500

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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 and select 'Find an office'.



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