



**Michel Bos (Global SPMT Specialist)**

# MR FIXIT

# A

SELF PROPELLED MODULAR TRANSPORTER (SPMT) is a highly complex piece of heavy-duty machinery. It's a work horse, and work

horses need time and attention to perform properly and safely. Looking after Mammoet's enormous fleet takes more than an oil can and a spanner. You need someone with expertise, drive and passion. You need someone like Michel Bos; Mammoet's Mr Fixit.

Michel Bos is Mammoet's global SPMT specialist. He knows everything there is to know about SPMTs, down to every nut and bolt. Proudly, he tells about the development of the SPMT: "The very first SPMT was designed by our people, who saw the need for a self-propelled transporter.

They approached manufacturer Scheuerle in Germany and we co-developed it. The first one was delivered in 1984. The average lifespan of a SPMT is 30 years and we recently gave the very first one back to Scheuerle to display in their showroom."

A SPMT combination consists of two units; a trailer unit and a power pack unit (PPU). The power pack unit powers the machine and is usually mounted at the rear. A trailer unit comprises 4, 5, 6 or 8 axle lines. The units can be joined together in a variety of configurations. Like a giant Meccano system, everything fits together. All wheels steer through 360 degrees, enabling the vehicle to drive forwards, backwards, sideways, diagonally, through a radius and even carrousel. All functions are operated and controlled by a single operator, working from one central panel, irrespective of the number of



axle lines involved. The loading surface can be adjusted from 1200 to 1800 millimeters height, so that the load can be lifted and set down onto the supports without the use of auxiliary equipment. Moreover, the hydraulic suspension system compensates for tilted road surfaces, allowing the load to be kept level under all circumstances. It also allows the wheels to adjust themselves automatically to any bump in the road surface.

All maneuvers can be carried out under full payload, with absolute precision. Accurate positioning is the system's hallmark.

SPMTs are used in many sectors worldwide to transport big objects like bridge sections, oil refinery equipment and other loads too heavy for trucks. A heavy-duty machine requires a lot of specialist maintenance, which is where Michel comes in. But it does not stop there; as SPMT specialist, Michel Bos is also the perfect intermediate between Mammoet and SPMT manufacturer Scheuerle.

### **Growing up together**

As a boy, Michel was fascinated by anything mechanical or electronic. His dream was to fly fighter jets, but he wound up at technical college studying mechanical engineering. Eager to get his hands dirty and too impatient for university, at 22, Michel started working for the maintenance department at Mammoet's predecessor, Van Seumeren: "I had to roll up my sleeves straight away. On my first day they sent me out to pick up a huge crane and drive it into the hall. That was pretty cool!"

Michel never looked back and he and the company have grown up together.

*"Sometimes my wife complains that I pay more attention to my SPMTs than my kids!"*

"Things have exploded since I joined in 1995. The maintenance department back then consisted of 6 or 7 people, but now we have 40 people for Europe and 80 for Canada alone. At that time we had 176 axle lines of SPMT, now we have more than 3,000 axle lines and 165 PPUS globally, and even more on order.

### **Keeping busy**

When Michel started in his current position in 2009, he set about reorganizing the maintenance process: "We used to just do repairs, but I thought it made more sense to do preventive maintenance so I convinced the management to buy more SPMTs so that we could rotate them and do regular maintenance. This means they break down less often on the job, which saves time and money. I developed the whole inspection schedule, which is now used at all our maintenance sites throughout the world. Inspections and routine repairs usually take about a week for one mechanic, but we can do it quicker if necessary."

Michel is no longer as hands-on as he used to be: "My mornings are spent answering queries and requests from all over the world. If there's a



problem, I'm the guy they go to. My afternoons are usually spent coordinating with Scheuerle about the delivery of new machines and developing the next generation. We're trying to develop a more sustainable, hybrid model at present."

Michel also travels around the world four or five times a year giving special 10-day SPMT maintenance courses, which he developed himself. "I love giving training courses. It costs a lot of energy, but it's always a good feeling to be able help people with their questions and problems. And it's gratifying to see people put what I teach into practice."

When he's not fielding questions from all over the world, giving courses and supervising his team, Michel is putting away in his workshop designing and building test devices for SPMTs. "I like to keep busy," he grins sheepishly with a gift for understatement. "It's more than just work for me. I'm fascinated by anything to do with technology and I love solving problems. It's great to hear my colleagues get enthusiastic about a device I came up with that they say they should've had a hundred years earlier."

### Family man

Besides his demanding work, Michel has a wife and five children, who keep him busy at home. "Sometimes my wife complains that I pay more attention to my SPMTs than my kids!" he laughs and then quickly adds; "but that's not true of course!"

Besides his rich family life, Michel feels very much at home at Mammoet: "The company has grown enormously and I feel I have made a modest contribution to that growth, which makes me proud. It's a place that encourages innovation and rewards initiative. We have the best equipment, the best training and the best people. I can't imagine a better place to work." ■

## SPMT facts

### SPMT

**No. of axle lines**  
4 / 5 / 6 / 8.

**Own weight (tons)**  
16 / 20 / 24 / 32.

**Maximum weight including load (tons)**  
160 / 200 / 240 / 320.

**Dimensions (l x w x h [meters])**  
4 axle lines: 5.6 x 2.43 x 1.15.  
5 axle lines: 7 x 2.43 x 1.15.  
6 axle lines: 8,4 x 2.43 x 1.15.  
8 axle lines: 11.2 x 2.43 x 1.15.

**Tractive force**  
24 tons.

**Travel speed**  
Max. 11.5 kilometer/h.

**Tires per axle line**  
4 pcs.

**Possible steering programs**  
Normal, Diagonal, Circle, Front, Rear, Transversal.

### SPMT Power Pack Unit

**Own weight**  
7 tons.

**Engine**  
Mercedes V8 16 liter.

**Available power**  
475 hp / 2300 Nm.

**Maximum connectable**  
40 axle lines with 26 drive axles.

**Drive pumps**  
600 l/min, maximum 400 bar.

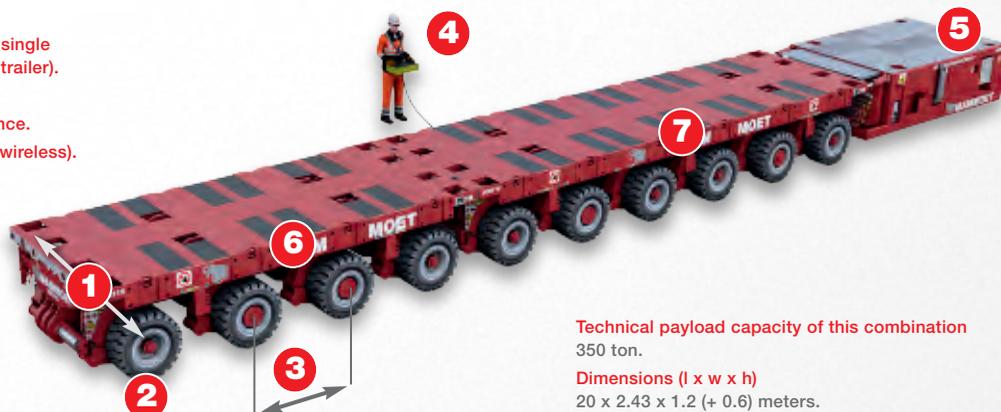
**Steer pump**  
360 l/min, maximum 360 bar.

**Operational temperatures on SPMT eq.**  
-20 to +40° C.  
With additional arctic or desert pack  
-40 to +50° C.

**Total**  
3,000+ axle lines, 165+ PPU.

## 4 + 6 axle line combination

- 1 Axle line (consists of two single axles lined up in width of trailer).
- 2 Single axle.
- 3 1.4 meters axle line distance.
- 4 Remote control (cable or wireless).
- 5 Power Pack Unit (PPU).
- 6 4 line SPMT.
- 7 6 line SPMT.



**Technical payload capacity of this combination**  
350 ton.

**Dimensions (l x w x h)**  
20 x 2.43 x 1.2 (+ 0.6) meters.