

Uniquely efficient: SCHEUERLE Trailer Power Assist saves on four tractor units.

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Transport solution in use for scientific purposes

- First long-distance assignment for Trailer Power Assist (TPA) from SCHEUERLE
- Transport combination completes route in half the specified time

With the help of the unique Trailer Power Assist (TPA), an innovative development by Mammoet and SCHEUERLE, the Dutch heavy-load service provider was able to transport a 430-tonne coil using only two tractor units. Without TPA, six towing vehicles would have been required. In addition, the technology reduced the time required for the transportation by half.

The experimental nuclear fusion reactor ITER (International Thermonuclear Experimental Reactor) is a groundbreaking project which, following its planned completion in 2025, is expected to demonstrate how electricity can be generated with the help of nuclear fusion. Likewise of a pioneering nature is how the Dutch company, Mammoet, which by its own account is the world's largest service provider in the field of technical lifting and transport solutions, transported two 430-tonne reactor components from the port in Marseille over a distance of more than 100 kilometres through southern France.

More performance than any other technology in this category

Mammoet used the Trailer Power Assist (TPA) for transporting the field coils on behalf of Daher Technologies, a specialist in nuclear fuel logistics whereby SCHEUERLE, a subsidiary of the TII Group owned by the Otto Rettenmaier entrepreneurial family, produced the TPA according to Mammoet's specifications. With 1,000 hp engine power, a traction force of 400 kilonewtons along with an innovative hydraulic drive, the TPA generates more drive power than any other solution in this category. What would otherwise have required six tractor units, two trucks were sufficient due to the additional thrust provided by the TPA.

High speed required

The high traction force combined with the extraordinary manoeuvrability of the TPA also made it possible for Mammoet to cover the distance in a very short time. Because the route included numerous motorway sections, Mammoet had to handle the transport as quickly as possible so that traffic was affected as little as possible. The TPA actually managed its first long-haul assignment in half the specified time. As a result, the system impressively demonstrated its exceptionally high level of efficiency.

Another highlight of the TPA: Empty journey at 80km/h possible

Once the transported goods have been delivered at their destination, the truck can pull the TPA to the next location in freewheel mode at a maximum speed of up to 80 km/h. Cost effectiveness and efficiency are thus considerably higher than with previous transport solutions.

Lower overall weight reduces fuel consumption

But that's not all. The ballast requirements of conventional tractors are eliminated with the TPA likewise the time-consuming need for coordination between the drivers that normally occurs in a multi-truck combination in order to synchronise the braking and steering behaviour. Consequently, the TPA also increases the safety of the transport assignment. By reducing the total weight of a transport and the number of tractor units, the TPA also improves the fuel balance.

Basis provided by the K25 platform vehicle from SCHEUERLE

The TPA is based on the self-propelled K25 modular platform vehicle which hydraulically drives four of the six axle lines by means of one Power Pack Unit (PPU). Thanks to its modular design, the TPA can be easily coupled with other units and demonstrates even more power when combined in a group of vehicles. The system supports a road speed of 28 km/h. Thereby, it is up to 20 times faster than a conventional self-propelled modular transporter. When travelling more than 28 km/h, the TPA switches over to the so-called freewheeling modus and the truck tractor can then drive at the permitted maximum speed. The TPA is eligible for road approval in Germany and Europe.

Further assignments in the service of science

The two field coils were just the first transport assignment for the ITER research project. With the TPA, Mammoet will also tackle the upcoming transportation tasks including the transport of the first VV Sector (Vacuum Vessel), a vacuum vessel in which the fusion reaction takes place, that has a weight of 600 tonnes. Through the help of the Mammoet and SCHEUERLE development, this will also be a groundbreaking

transport.

Source: Transporter Industry International GmbH