

Jack of all trades

Trailer manufacturers are looking to raise efficiency, reduce costs and improve service offerings. Emmanuel Mair reports

At a time when many of us are appreciating those in life whose roles are sometimes overlooked, the terminal trailer might be in need of some recognition. Trailers are not the most glamorous pieces of equipment in a container port but they perform essential tasks, ferrying boxes around terminals so that loading and unloading operations can take place.

As ports become more advanced, trailers also have to make the adaptation to satisfy operators' demands for greater efficiency, safety and green credentials. Current expectations are that the future will see more automatically driven terminal tractors operated from a control room like some new ship-to-shore (STS) cranes.

Johan Bood, commercial director at Buiscar, said: "This is having a knock-on effect on the trailer market and a positive trend for efficiency and safety which offers new possibilities for the trailer market as well. As an example for terminal tractors with battery packages, it is also possible to extend the battery package on the trailer to support a longer range for the tractor."

Buiscar can also make use of its multi-trailer system to boost efficiency. The MTS is a method of towing up to five trailers one behind the other, all being pulled by one towing tractor with a single driver insert or without in the future. As multiple containers can be shifted around the port in a single move, it is especially useful for big (multi-purpose) terminals with long berths and inland docks, such as ECT in Rotterdam which first used it.

Bood added: "When you have an autonomous terminal tractor with an MTS behind, that's very flexible and efficient to transport containers. Furthermore, it's relatively easy to implement in existing terminals with a big win on the terminal efficiency."

Recently, Buiscar has delivered 20 MTS single stack units to Gioia Tauro in Italy as well as a double stack MTS flexi train solution to the US. The 'flexi train' is an MTS trailer with a fifth wheel connection. After the first trailer, there is a second and possible third trailer connected via a drawbar with another two 40 ft containers or four 20 ft containers per trailer.

In the past, using a drawbar solution meant that a counterweight was needed on the fifth wheel to keep the traction on the rear axle. With this flexi system, operators can use the standard terminal tractor with a fifth wheel as a first trailer and then at the second trailer, they can use a drawbar trailer. Therefore using a counterweight is not necessary so they can just use the standard tractor.

A further potential development is using e-drive on the trailer to support the terminal tractor. Bood noted: "You can imagine

when you have five trailers behind an electric terminal tractor, it will definitely help if the trailer has a portion of e-drive available. We are working on developments in that specific case."

Another goal of Buiscar's at present is to develop more economic solutions to supply to customers who are more restricted by price. The company still produces the solid tandem system in its Dutch factory, which is noted for its strong design and reliability. But it now also makes other parts of the chassis at its factory in Poland to accrue savings on labour cost.

Transportation costs can comprise up to 20% of the total cost of a trailer so this is one area to be scrutinised. More commissioning on location and a smart trailer design can help, noted Bood.

With the aim of reducing transportation costs, NT Group delivered its first Novatech bolted terminal trailer to a container terminal in December 2019. The unit can be disassembled to fit into a container, enabling direct deliveries of the product to container terminals rather than an extended often costly journey via a roll-on roll-off (ro-ro) facility.

The trailer is designed to provide the same operational efficiency for loading and unloading containers as the traditional full welded units. From now, containers will be loaded with bolted terminal trailers at the factory before heading to either Gdynia (the nearest container port) or other northern European ports, to be shipped to the final destination.

The unit can fit lengthwise into a container because the main beams are divided and the guides are taken off. The new setup should improve the process of maintenance and repair as damaged or worn parts can be replaced with spare parts without hassle.

NT Group provides hydraulic lifting and transport equipment for container terminals, roll-on roll-off (ro-ro) facilities and industrial applications. Its two main brands, Translifter and Flexmaster, provide solutions within the typical lifting frame of 50-350 tonnes.

The company is prioritising the delivery of a professional service setup with a short response time for the above products with NT Service, its latest strategic initiative. The acquisition of NT Liftec in 2017 brought an experienced platform with many years of operation in the market while Novatech also had similar experience. The accumulated knowledge has been integrated into NT Service, which is responsible for service and after sales.

Jukka Miittunen, service director at NT Group, said: "Our operation in Poland is a full service one-stop shop where we do the full value chain including cutting, welding, machining



and assembly. In service we can utilise the whole factory. The fact that we are using the same facility for service is very unique in the market and allows a short reaction time to produce 'out of date' parts for older units."

Customers can send units to the factory to be serviced, repaired or overhauled, while simpler work can be done at their own premises. The oldest translifter units which are still in use are 20-25 years old with 30,000-40,000 operation hours and their frames are still in relatively good condition. However, for many of these units the control system is old and some of the electric parts are at the end of the line.

Jani Peltola, service manager at NT Liftec, stated: "We have made a package so we can upgrade the control system of those units, normally adding 5-10 years more lifetime to the unit. It's really important that customers follow the maintenance programme because then we can easily do 30,000 working hours with the machine. Unpredicted repair work costs much more money and takes longer to do so customers need to focus on planned maintenance."

For one customer, NT Group provided a total overhaul only keeping the frame but installing a new control system, new hydraulics, new electrics and servicing major mechanical parts such as bogies and bearings. It is possible through this process to get a unit which works like a new one but with less cost, while the full overhaul only takes three weeks.

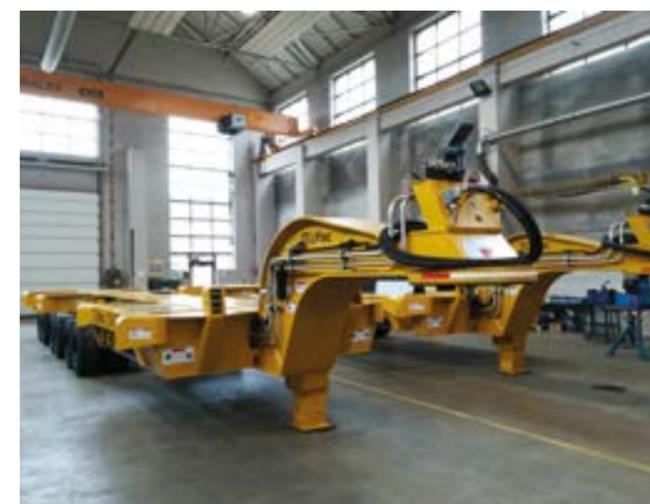
As well as providing training for operators and technicians when a unit is delivered, NT Group can offer regular inspections and reports to suggest the best way to maintain a unit. This can help to forecast which components are most at risk and require maintenance.

A further innovation is the Wiselink system which offers remote monitoring of the machines. It provides real time fleet tracking and work planning, prioritising and forecasting. This enables the supplier and the customer to know how many tonnes the machine has moved and what kind of loads they are moving.

Piotr Siwy, service manager at NT Service, who focuses on Novatech machines, said: "After the acquisition of NT Liftec we together have a stronger and mutual knowledge to share with customers. We utilise and offer Wiselink and remote access to the machines. That goes both ways as NT Liftec immediately got access to the former Novatech mobile, remote access service tools, which are needed in the current situation."

"For 90% of cases we are solving them remotely because the customer has the possibility to fix urgent matters. The remote access helps us to diagnose what is really wrong with the machine. We can also offer calculations on the running cost of the machines, which are dependent on the running hours and the lifting and lowering cycles."

Joining these capacities and capabilities together has resulted in



making the components and parts used by various products, particularly the control system, more interchangeable. While NT Group has a big catalogue of parts, the need to keep stocking parts has been reduced thanks to the interchangeability.

At present, the company's factory in Orzesze, Poland, is still running at full output despite the COVID-19 pandemic, while digitalisation enables it to offer remote service to customers. For urgent matters, NT Service can send out its own staff while it also has personnel on the ground in many countries, who can visit sites and support local operations. ●

Opposite page:

Top:

Novatech bolted terminal trailer

Middle: Buiscar's multi trailer system in action

Bottom:

NT Liftec translifter