

MAGAZINE



WHERE SPECIAL COMES AS STANDARD



WE'RE HIRING

At Terberg, we want everyone to feel welcome. Once you join, you will become a part of our family business. We see you as an individual and encourage you to grow and learn. We are dedicated to provide a safe working environment for you to feel free and creative.

JOIN THE ROYAL TERBERG FAMILY NOW



50 years of Terminal Tractors



2023 marks a special year for Terberg Special Vehicles. In 1973 we built the first Terminal Tractor for a customer in Rotterdam. Now, 50 years later, we are supplying these vehicles to customers in over 130 countries. Our strength lies in our products – offering the highest quality and a long lifespan. That benefits our customers' return on investment, and it also provides the necessary comfort for drivers working with our products day in, day out.

Higher production capacity for shorter delivery times

Global demand for Terminal Tractors calls for expansion in our production capacity. The year 2023 was all about building and rebuilding. In Mississippi (America), we worked hard to realise a new production site for the USA market, which is expected to start production in January 2024. Also in Benschop (the Netherlands) we expanded with a completely new hall that will be commissioned in 2024. These investments are going to result in significantly shorter delivery times for our customers.

Considering future generations

To provide a healthy world for the fifth generation of the Terberg family, we focus on reducing our emissions. All Terberg Group divisions are setting up and rolling out projects to reduce their environmental footprint. At Terberg Special Vehicles we are focussing on the development of cleaner products such as electric vehicles (EVs) and alternative fuels like LPG and LNG. We are increasingly purchasing from suppliers who, like us, are focussed on reducing the environmental impact of their products.

In this magazine our subsidiaries and distributors share their news updates, customer stories and plans for the future. Some of the articles include QR codes which you can scan with your phone or tablet for more information. I hope you enjoy reading this new edition of Terberg Special Vehicles Magazine.

Rob van Hove
CEO, Terberg Special Vehicles division

The first CE-marked YT193 DBW pre-series diesel machine has been produced

Read more on page 10



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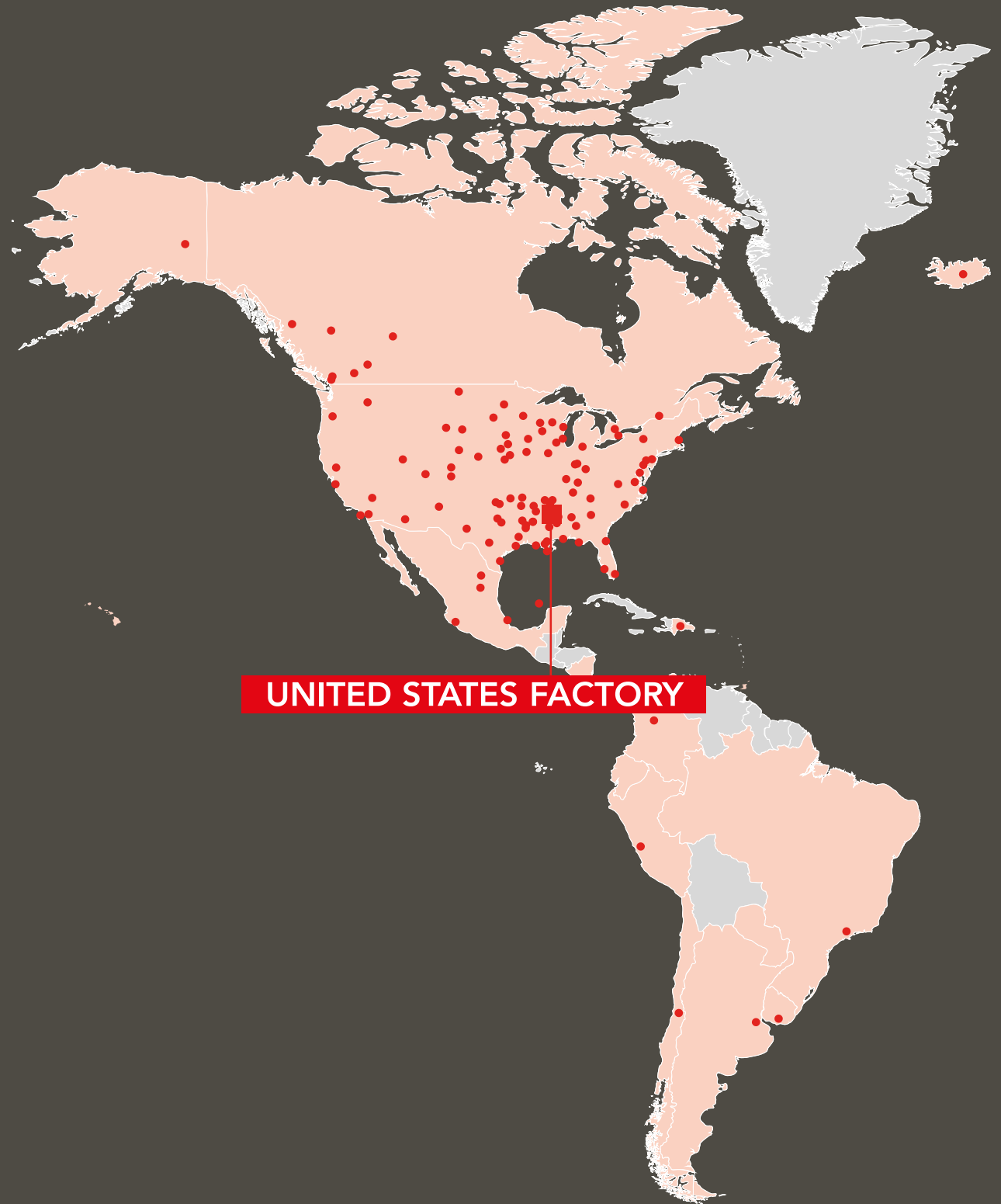
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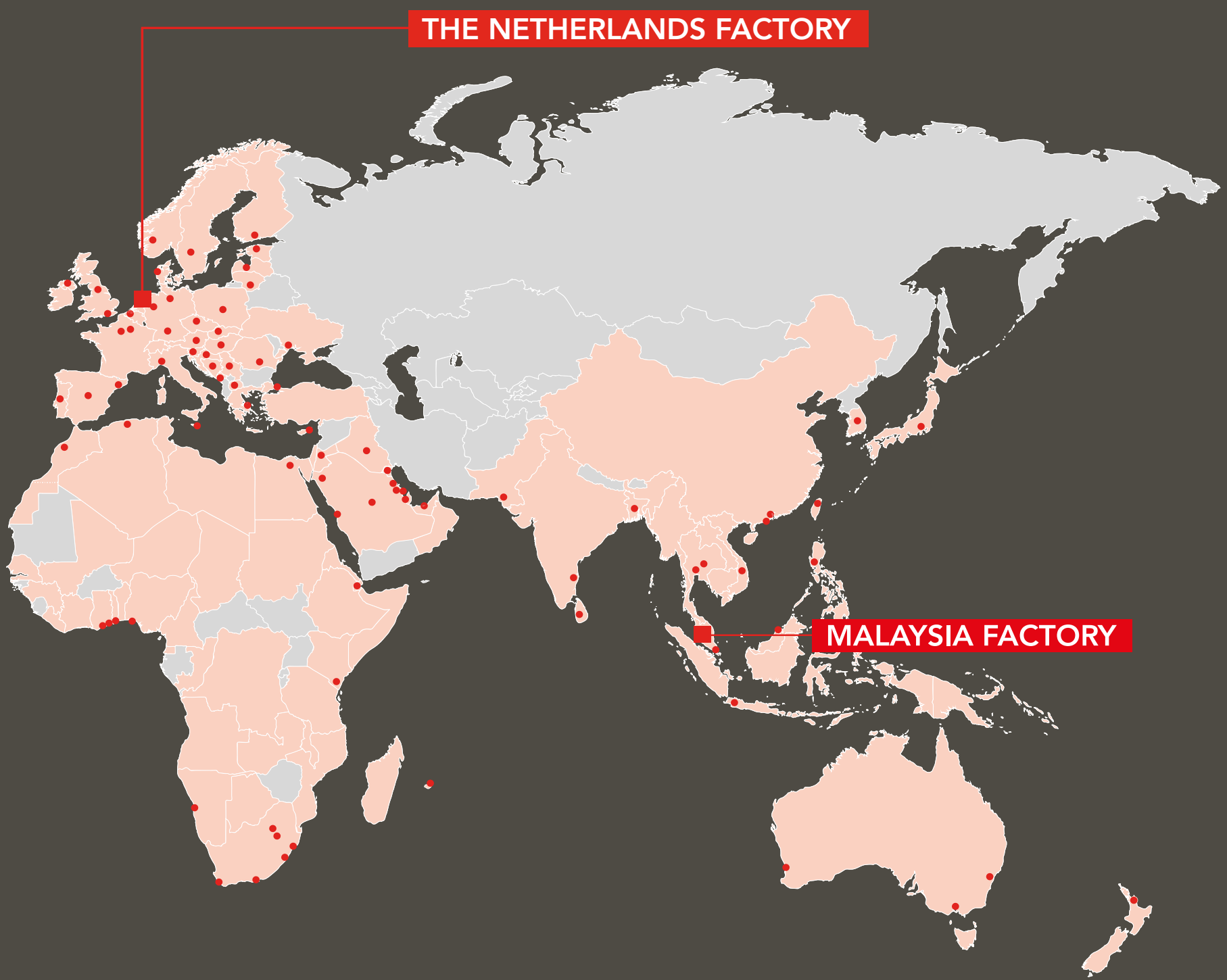
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Countries in which we are active





THE NETHERLANDS FACTORY

MALAYSIA FACTORY

The Engineering department - constantly focussed on innovation and improvement



Terberg Special Vehicles has an Engineering department with a staff of approximately 70. Many of them are automotive engineers, but there are also mechanical engineers, software developers and testers and other specialists. The department supports the production plants in the Netherlands, Malaysia and the USA as well as after-market third line support. We are in the transition to a Global Engineering department with the Benschop site as a knowledge centre.

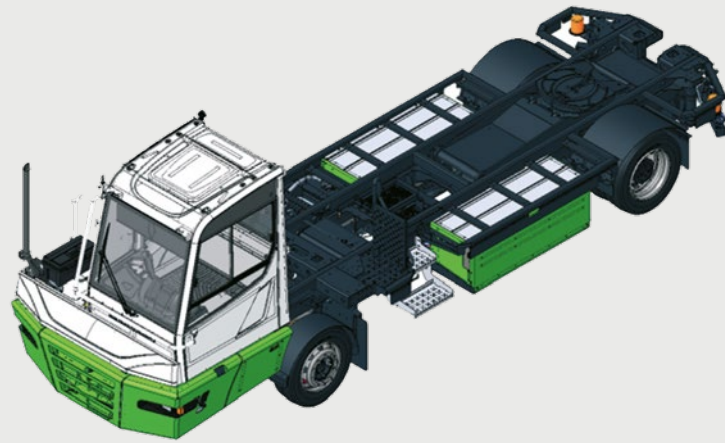
Ronald van Zoelen, Director Engineering, explained how the department operates "We have an engineering roadmap, which defines larger projects and our strategy. That covers New Product Development (NPD), i.e. the development of new vehicles, re-engineering existing vehicles for different drivelines (electric, LPG or H₂), and product updates. The NPD projects start with a detailed project plan defining the scope, resources and responsibilities. Because the products are getting more complex, production volumes

are higher and we want to develop a high-quality product, it is becoming increasingly important to look two to three years ahead. Getting the correct information from the market is essential.

We also deal with smaller projects, mostly customer-specific modifications. Those Customise to Order (CTO) projects include special hydraulic systems for trailers, chassis modifications for unusual loads, and much more.

In the past my department mostly dealt with just engineering. Nowadays the products are so complex that you have to spend more time thinking about what you develop and what our customers expect. You have to gather lots of information, and the earlier in the process you do that, the better. Basically, good engineering means that when our products reach the market they perform as expected, without teething problems which need modifications.

For CTO projects the Sales department defines the request based on a customer enquiry. We then decide if we can do it and if it is a modification which might also be relevant to other customers. An interesting example is a recent request for a TT222 with a shorter wheelbase, because the customer needs a tight turning circle to work in tunnels.



Cooperation with Process Engineering

Our output includes the Bill of Materials, specifications, digital spare parts manuals and exploded view drawings and all after-market documentation. For a new vehicle we work closely with the Process Engineering department which manages the production process. They also decide if our design is compatible with the assembly cycle and if any special tooling is required. Finally, they write the work instructions for the shopfloor based on the engineering documentation.

Electric vehicles

Terberg's aim is to offer electric versions of all vehicles in 2027. We expect that by the end of the decade 60-80% of the vehicles we supply will be electric. We are now discussing with our distributors what demand they expect in their markets. Diesel engines will continue to be used for certain applications and we also have to consider LPG and H₂, either fuel cell or hydrogen combustion engines. We are in regular contact with our colleagues at Dennis Eagle and Ros Roca, part of Terberg Environmental. Their refuse collection vehicles have operating cycles which are similar to those of our tractors, with many starts, stops and short driving distances. We exchange technical information and supplier experience.

Great department

We are basically a group of highly technical people who enjoy dealing with engineering challenges and taking responsibility for those. It is a great team, with a very good atmosphere, everybody has a real drive to get things done. We obviously provide regular technical training in areas such as electric vehicles, software and safety. Project management training is also essential now that projects can be so complex. All in all, I enjoy working here." ▀

BC203EV about to arrive

Project engineer Thijs Verbeek and Area sales manager Jordie Landegent updated us on the development of Terberg's new electric swap body carrier "We started the development of the BC203EV in 2022. It shares a lot of technology with our EV yard tractor, the YT203EV. And like that proven unit, it offers the same performance as a diesel vehicle. It can operate up to 12 hours without recharging the battery.

The Benschop plant will start assembling the vehicles in the first quarter of 2024, with the first deliveries soon after that. We have already received a significant number of orders, mostly for customers in France and Germany. There is also a lot of interest among customers in Scandinavia.

Apart from the driveline the vehicle is essentially the same as the existing BC183, and offers all the features logistics and distribution companies are looking for. It can be fitted with the usual options, such as a lifting fifth wheel for handling semi-trailers, or one or more drawbar couplings for drawbar trailers. The BC203EV is fitted with Terberg Connect and air conditioning as standard. It has the same comfortable cab as the YT with the addition of a joystick on the driver's armrest, to operate the BC functions. And the electric driveline results in less noise and vibration - better for the driver and anyone working close to the vehicle." ▀

Terberg RT303EV

As many of you are aware, we have been working hard to develop the first Terberg RT tractor as a fully electric version.

The first unit was built in the first half of this year and it is almost ready for its first tests in a real life port environment. This tractor will be used as a proof of concept, to test and see how this design can be used in the demanding RoRo operations at our customers. The term "proof of concept" clearly indicates this product is far from ready for series production. As building a good and reliable Yard tractor in an EV version was not easy, you will understand that our engineers faced a lot more challenges with the development of the EV RoRo 4x4.



There is not much space for the batteries and other components as the tractor has to be manoeuvrable, low, with a long range and still have a spacious cabin for the driver. We think we have already come a long way and will proudly present this new product range to you." ▀

Terberg's diesel Drive by Wire tractors

Some of our customers are considering implementing autonomous operation or tele-operation at their container terminals or distribution centres. Both forms of automation require "drive-by-wire" (DbW) vehicles, which can be controlled by an automation kit.



DbW kits and upgraded sensors

Terberg currently offers a DbW kit for diesel YT tractors as a factory-installed option. A kit for YT-EVs will become available in the near future. The kit provides external control, via the CAN bus, of functions such as steering, braking, throttle, fifth wheel, etc. It also implements a range of safety functions. Because of the differences between manual and automated operations a number of vehicle sensors (e.g. the fifth wheel sensor) are upgraded from automotive grade to

safety grade. Wouter Bosschieter, Manager Engineering Electric Vehicles and Automation "In our view that is essential to guarantee safety and CE compliance. We are aware that there are suppliers offering cheaper DbW retrofit kits, but those do not offer full integration and the type of sensors we feel are required. By specifying a factory-fitted DbW kit our customers are assured of a certified, safe and reliable product, and have a single point of contact."

Applications

DbW tractors can be combined with automation kits from third-party suppliers for autonomous or tele-operation of the vehicles. You can read more about that in the Automation article in this magazine. ▀

DOT-spec YT ready to hit the road in the USA

In the EU and the UK our standard yard tractors can generally be used on public roads, operating at speeds of up to 40 km/h across shorter distances.

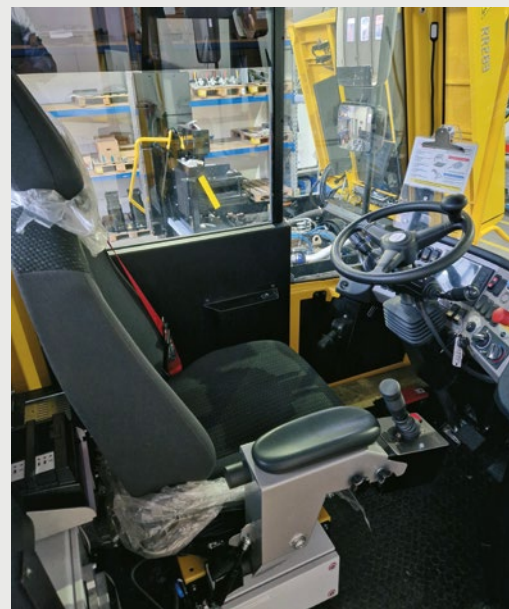
However, in the USA vehicles driving on public roads need to comply with the Department of Transport (DOT) regulations. In essence, the manufacturer has to self-certify compliance with the Federal Motor Vehicle Safety Standards issued by the National Highway Traffic Safety Administration.

Terberg has developed the YTxx3-DOT model to meet the need of our USA customers for a yard tractor which can operate on public roads as a Class 8 Heavy duty vehicle with a top speed of 33 mph (53 km/h). This took a significant engineering effort, covering components such as the driveline, steering, lighting and brakes.



The first pre-series of 10 YT193-DOTs has been built in Benshop and the vehicles will soon be delivered to customers. Once the new production plant in Columbus Mississippi is up and running the DOT models

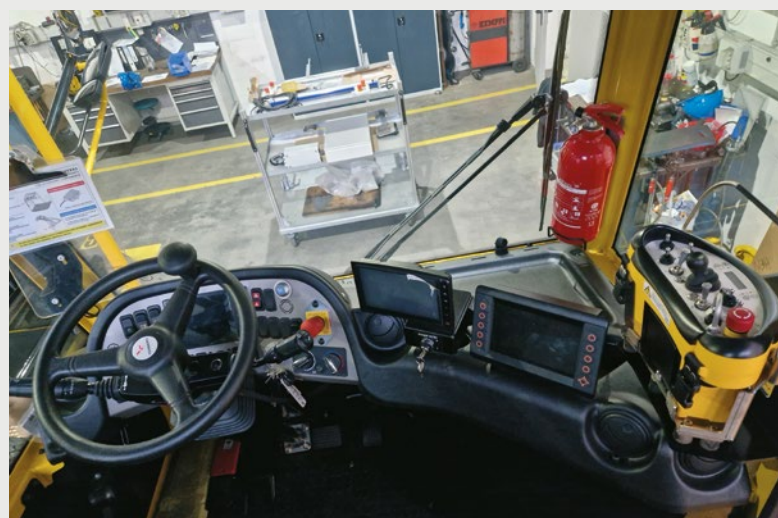
will be assembled there. This development demonstrates Terberg's commitment to serving customers in the USA with products tailored to their requirements, combined with local production and support. ▀



RR283 on track

In the last issue of Terberg Special Vehicles magazine we reported on the development of the RR283 stage 5 road/rail vehicle. Product specialist Arne Tänzer gave us an update "The development is now complete and we have supplied the first units to our partner ZAGRO Bahn- und Baumaschinen GmbH where the rail components are fitted. They have already made the first deliveries to customers. The RRs are mostly sold through ZAGRO, who have the required railway industry expertise.

The most visible difference compared to the older model is that the RR283 is fitted with basically the same cab as the YTxx3. This cabin enabled us to reduce the development time of the new model and it gives the operator a comfortable working environment. The great advantage of our road/rail vehicles is that they can easily move between tracks on paved shunting yards. That saves a lot of time and cost compared with moving locomotives between tracks, across points in the rails. The units can also travel between shunting yards on the public roads, which is much more convenient than having to arrange track access. Another advantage is that the rubber tyres give great traction on the track. Because of that our unit can have a much lower weight than a conventional locomotive with steel wheels, and the fuel consumption is lower. Finally, using standard automotive components where possible instead of specialist railway components reduces the maintenance costs." ▀



Peter Wirth, Zagro Sales Director

"The first two RR283s of the order of five for Romania have already been delivered to the customer and taken into service. The first was equipped with a rail guide which makes it possible to adjust the standard track of 1435 mm to 1520 mm at the push of a button using hydraulic adjustment of the rail axles. This means that both rail networks can be used in the border area between Bulgaria and Ukraine. The second RR283 was delivered with a gauge of 1435 mm for the rail network in Bulgaria. ZAGRO has already received further orders with the southern widths of 1435 mm, 1668 mm and 1520 mm from Austria, Portugal and Azerbaijan."

The long road towards automation

Both autonomous operation and tele-operation have long been hot topics in the container terminal industry. Automation is also highly relevant to distribution centres and some factories. In fact, there's a lot of hot air around this topic. Both forms of automation require "drive-by-wire" (DbW) vehicles. Terberg will start supplying the diesel DbW option in the second quarter of 2024, as discussed elsewhere in this magazine. Wouter Bosschieter (Technology Manager – Vehicle Automation) Remy de Bruijn (Business Development Manager) and Anton Vuijk (Manager Terberg Transport Solutions) clarified some of the issues associated with automation.

“Machine integration is a key issue, and there is a huge difference between automating a single tractor and a whole terminal.”

The state of the automation market

Remy explained “The key focus of our customers is stable growth. Automation can help with that as it makes them less dependent on a limited pool of drivers and can potentially offer more operational certainty.

We have been working with several partners on autonomous and tele-operation, making steady progress. There are lots of software companies which tell our container terminal customers that they have the perfect solution to driver shortages and cost reduction. However, in practice, that doesn't usually work, at least not yet. Machine integration is a key issue, and there is a huge difference between automating a single tractor and a whole terminal. Basically, it's easy to demonstrate a tractor driving autonomously around an empty yard - but integration into a terminal with mixed traffic and obstacles is much more difficult. We have to remind customers that they need to consider issues

such as safety, risk management, operational integration, certification and more. For example, our tractors have to comply with around 80 standards and other requirements, that has taken us tens of thousands of hours of engineering. The automation kit and the rest of the software environment need a similar level of safety and reliability and take time to develop. Yes, you can now order a DbW vehicle, but developing a complete and integrated solution for a container terminal or distribution centre takes a lot of time and hard work.

Customers also need to be aware that automated systems are not necessarily faster or cheaper than human drivers. But automation can help address challenges related to availability of skilled personnel, peak demand and energy consumption.

Integration is essential

To automate a container terminal or distribution centre effectively you need to integrate the automated vehicles with the terminal and its operational procedures, fleet management, etc. - those are different at every terminal. It also takes time for new technology to be accepted. At Terberg we want to offer solutions to our customers, working closely with our automation partners. We look at a customer's current operations, starting with how the tractors are despatched. Sometimes that is by voice messages over the radio and sometimes electronically using a display. There are many more such things to be considered, and you need to be able to present a good safety case. And effective cybersecurity is essential - just look at the attacks on some terminals and other businesses.”

“Terberg Transport Solutions aims to offer complete fleet automation solutions in future.”

What next?

At Terberg we firmly believe that our DbW tractors fitted with an automation kit can offer a cost-effective and flexible option for automating container terminals and other sites. But implementation at a brownfield terminal still takes a lot of time and effort. You really need a systems approach, not just vehicles and software. We think the transition from manual to autonomous operation will be gradual, with tele-operation as an intermediate stage.

Terberg Transport Solutions

We have been involved with a number of test and demonstration projects, in several countries and working with different automation partners. We have learned a lot from those projects and they have made us aware of the challenges involved in automating a whole fleet. Terberg Transport Solutions aims to offer complete fleet automation solutions in future and work towards transport as a service. By following a staged and collaborative approach we can support container terminals, distribution centres and other operators with the successful automation of their tractor fleets. Some of the issues to be considered during these projects include ensuring safety, efficiency, and acceptance of the new technology.

In short, automating a terminal or distribution centre is complex. It requires a detailed analysis of the infrastructure, integration with customer systems and risks assessments, as well as the potential benefits of the technology. Then the options for automation can be considered, selected and tested. Finally, the human aspects such as acceptance by personnel, need to be considered. Only after that can a comprehensive automation solution be implemented. ➤

Elements of automation



TOS (Terminal Operating System)



Equipment Control & Fleet management System



Autonomous Driving System with sensors placed on vehicle



Remote operation station



Terberg YT with Drive By Wire

TERBERG
SPECIAL VEHICLES

After-sales: supporting distributors supporting customers

Terberg has always taken pride in providing an effective after-sales service to ensure that our customers can operate the vehicles they have invested in efficiently.



There have been some changes in the after-sales arrangements. Dave Brouwer, Manager After-sales in Benshop, explained "In the past, spare parts and support were provided by the factory. But that became less effective as the worldwide fleet of Terberg vehicles kept growing. So over the last few years we have changed the system. Now the distributors, both Terberg subsidiaries and independent companies, provide the first-line support to customers. That is more effective as they are closer to the customers and more familiar with the local culture. This transition will be completed on 1 January 2024 when support for customers in the Netherlands and Belgium is transferred to Terberg Tractors Nederland and Terberg Tractors Belgium.

Spare parts

Distributors keep common spare parts in stock. If they need other parts Terberg can quickly



Dave Brouwer

"Terberg has always taken pride in providing an effective after-sales service"

supply them from the spare parts hubs in Benshop (serving EMEA), Malaysia (Asia) and the USA (Americas). Deliveries can be made to the distributor's warehouse, their mobile workshops or their customer's site. We can often provide next day delivery.

Technical support

First-line technical support is now provided by the distributors. They are assisted by the Terberg technical support portal which contains solutions to common issues. If necessary they can open a ticket to request second-line support. A product specialist will then look at it, and possibly contact the product developer at the Engineering department for third-line support.

Supporting distributors' operations

We aim to make life easier for distributors so they can run their businesses efficiently. For example, we provide calculation tools and easy access to repair instructions with parts lists to reduce the amount of work that needs to be done manually. We also want to share best practices with all our distributors. That promotes a uniform approach worldwide - one brand, one voice to the market. Of course, if a distributor starts working with a product new to them the Terberg Academy will train their people.

After-sales department

Our department has expanded over the years, we now have 36 people working here. They cover areas such as second-line technical support, after-sales engineering, new product introductions, guarantees, customs procedures, outbound logistics and purchasing. Together with our colleagues of the Sales department we represent the factory towards the distributors. Now that all first-line support is provided by the distributors our work here has changed, and we have tailored the department to that." ▀



Our warehouse system in operation

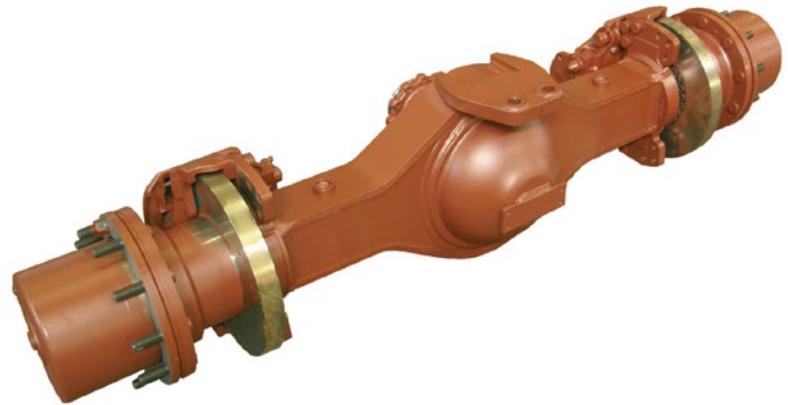
Quality vehicles demand quality components

Our customers expect Terberg vehicles to be of the highest quality, in terms of design and the components used to build them. To ensure that we have developed close, long-term relationships with a number of key suppliers.

Purchasing manager Jeroen Ywema told us more about one of those suppliers "I'm originally a mechanical engineer and I've been working at Terberg for over thirty years. Axles are obviously a key component of our vehicles. For the RT and YT tractors we obtain many of those from Kessler + Co, a leading manufacturer of drivetrain components. They are also a family company, and their culture matches ours. They understand our industry and what we use the components for. Kessler also communicate effectively with the engineers at Terberg. We normally choose from their standard products but might require some customisation, such as additional support brackets on an axle. We also source other parts such as transfer cases from them. I think we have been doing business with each other for at least 35 years." ▀

"The association between our two companies traces its origins to 1980. Ever since, we have valued the pragmatic, swift, and trustworthy collaboration. Terberg, known for manufacturing high-quality and innovative vehicles, aligns seamlessly with our company's core philosophy. We eagerly anticipate fostering further innovations together in the future."

Simon Grimminger
Managing Director, Kessler & Co.





The event kicked off with a warm welcome from TSV CEO, Mr. Rob van Hove, who highlighted the company's journey, its values, and its commitment to sustainability and innovation.



EMEA Distributor Days 2023

An opportunity to meet colleagues and learn from each other



The Terberg Special Vehicles Europe, Middle East and Africa Distributor Event 2023 in September provided industry leaders, distributors, and experts from across the region an opportunity to meet and exchange information. It demonstrated our commitment to innovation, strong partnerships and driving growth. It also provided an opportunity to celebrate a remarkable milestone – 50 years of excellence in producing Terminal Tractors.

The first day was held in the magnificent surroundings of De Haar Castle near Utrecht, the Netherlands. Two plenary sessions covered the latest industry trends, Terberg's strategic vision, and opportunities for distributors to excel in a rapidly evolving landscape. Terberg Special Vehicles CEO Rob van Hove highlighted our journey, values, and commitment to sustainability and innovation. He stressed the importance of working together to achieve common goals.


A series of workshops allowed distributors to dive deeper into Terberg's products and services, equipping them to serve their customers. These interactive sessions covered a range of topics like product training, YT tractors, Terberg Connect, International Key Accounts, RT tractors, Competitor Comparison, and the OPC Configurator software to configure vehicles to customer requirements. The Daily Challenges workshop provided a platform for distributors to



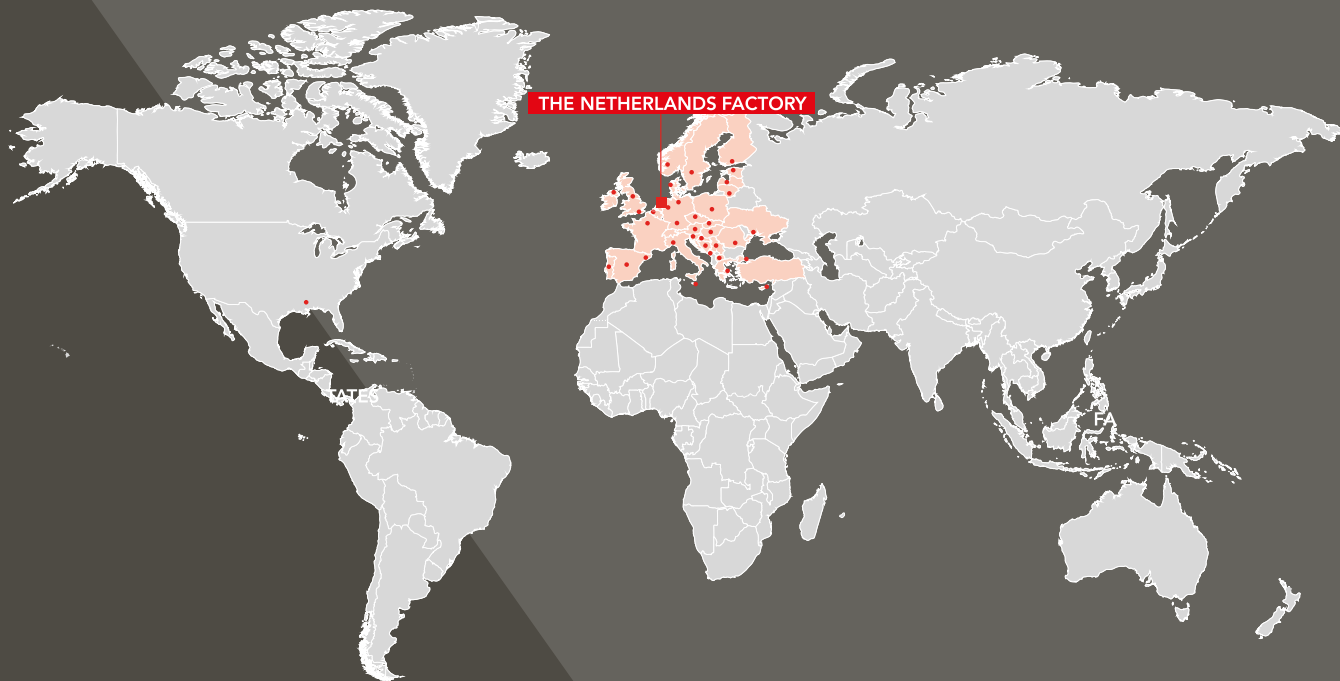
come together, share everyday issues, and collectively develop effective solutions to improve Terberg's processes and services.

The day wrapped up with a discussion of Alternative Fuels by Eric Dijkema, Key account manager Lubricants at Shell in the Netherlands and Remy de Bruijn, Business development manager at Terberg. They shared their perspectives on current trends in alternative fuels and challenges facing the energy transition in the automotive sector. In the evening there was a closing ceremony to celebrate the spirit of partnership and 50 years of Terminal Tractors.

The second day took place at Terberg Benschop where distributors were offered a unique opportunity to step behind the scenes at the factory. They got an up-close look at the precision, dedication, and innovation that drive our success. Three new vehicles were presented: a proof of concept electric RT tractor, the BC203EV body carrier and the Drive-by-Wire YT193.

Our distributors got a glimpse into the future of Terminal Tractors and left with a renewed sense of purpose, armed with the knowledge, tools, and inspiration to take their businesses to new heights. The event underscored that, working together, the future is bright, sustainable, and filled with exciting possibilities. 





EUROPE



Terberg Spezialfahrzeuge Arno Ortlieb

This subsidiary supplies our tractors and Kinglifter truck-mounted forklifts to the German market, where quality and durability are highly valued. The company emphasises flexibility, to ensure that customer expectations are not simply met, but actually exceeded.

GERMANY



Terberg DTS Alisdair Couper

In addition to the full range of Terberg tractors, Terberg DTS also distributes terminal and industrial trailers, special airport vehicles and fire and rescue equipment. The company has a fully-equipped servicing workshop and a large rental fleet.

UNITED KINGDOM



Terberg Tractors Nederland Johan Bood

TTN sells, rents and services our vehicles in the Netherlands and operates a fleet of mobile workshops.

THE NETHERLANDS



Terberg Tractors Belgium Lies Barra

This subsidiary supplies our tractors and Kinglifter truck-mounted forklifts to the Belgian market and undertakes scheduled inspections in accordance with local requirements. Many of our units are operating in the busy port of Antwerp. Terberg Belgium also supplies Still forklifts and other equipment.

BELGIUM



Terberg Manuport Fabio Fiorenzuola

Our Italian subsidiary supplies Terberg tractors, other port equipment and heavy-duty forklifts, and services these vehicles.

ITALY



Terberg Tractores Iberia Eric van 't Westeinde

TTI sells, rents and services Terberg vehicles throughout the Iberian peninsula, serving a wide range of customers.

SPAIN AND PORTUGAL



Terberg MPM Ireland Mark McCluskey

Terberg MPM Ireland sells, rents and services new and used Terberg vehicles and machines across the fuel tank, fire and rescue, trailers and associated equipment sectors.

IRELAND



Celebrating 50 years of Terberg terminal tractors, the basis of Terberg's success

A personal take on the development of the terminal tractors

George Terberg was director of Terberg Benschop in the period that terminal tractors sales really took off. This provided a solid foundation for Terberg as it is today. He is currently a member of the Supervisory board of the Royal Terberg Group.

In an interview, Mr Terberg looked back on this exciting period "I joined the family business in 1978. At that time we were still mostly selling trucks to the construction industry, a very competitive market, and only sold around 65 terminal tractors a year. Sales outside the Netherlands were handled by another company. I arranged for us to get those sales rights back, which made it possible to develop an international presence.

Terminal tractors were a niche market not served by large truck manufacturers. That gave us an opportunity to distinguish ourselves from the competition and build specialist products. Initially sales were fairly steady, but the growth of containerisation in the 1990s meant our market expanded rapidly. We managed to respond to that and in less than a decade tractor sales tripled.

At the same time the logistics market was expanding. Initially that industry used road tractors to shunt semi-trailers at distribution centres. But they realised our YTs with lifting fifth wheel could make the operations much more efficient. So that also increased our volume.




Meanwhile we were building an international network of distributors who could not only sell tractors but also provide the support customers needed. Later we started setting up international Terberg subsidiaries, to bring us even closer to the customers. Initially the focus was on Europe. Getting a major order from the Port of Felixstowe for our YTs really helped us. It proved to the industry that we were a serious and dependable partner and helped us win orders from large container terminals.

Next, we broadened our focus to the Middle East and Africa. And obviously Asia, where we set up a joint venture to build tractors in Malaysia. That approach has proven to work well and is being repeated in the Americas

George Terberg

"Terminal tractors were a niche market not served by large truck manufacturers."

where our partnership with the Taylor family is very successful. So now we are building a production plant in the USA too.

Being a niche manufacturer of high-quality specialist vehicles made it possible for Terberg to build a very successful business. It's great to have contributed to that." 



VIDEO

4 x 50 years at Terberg

The 50th anniversary of our terminal tractors will soon be followed by the 50th work anniversaries of four of our people at Terberg Benschop. Here is their take on the past half century.



Conny van Hall

"I started 1974 at the Sales office. At that time we only supplied trucks. The company was led by Goof and Ferdinand (Feb). Their sister To also worked here, she was the human face of Terberg. I worked with her for a long time, and learned a lot. My job as secretary is now very wide-ranging: managing calendars, communications with distributors, organising the distributor events, receptions and parties. I have witnessed many highlights, such as the production of the 1,000th, 25,000th and 40,000th tractors. Actually, I met my husband here at the office. His job at an accounting firm took him to Terberg. That was Goof Terberg's idea: he asked Jos 'Do you have a girlfriend? No? Then she's the one for you.' Great. Even after almost 50 years I'm still happy every morning when I cycle to work!"



"Feb the boss, George Terberg's father, liked to put a dust coat on and help in the factory. In the 1980s we had a fire here, he helped shift components, in his white shirt, and brought us food in the evening. He was very close to the people here."

"I have worked for three generations of the Terberg family: Goof, George and Ferdinand. That underlines it's a great family-run business."



Tom Buijserd

"I worked briefly at a car dealer and then joined Terberg in April 1974. I started as trainee fitter and eventually became head of the workshop. At the start I mostly worked on trucks, later on terminal tractors. We used to do maintenance at Benschop, that's now handled by Terberg Tractors Nederland in Lopik. I'm still working there, one day a week. I now restock the fitters' mobile workshops and deliver spare parts to customer sites."

"People stay here for a long time. The family is good to us, and we to them."

"Truus de Leeuw looked after the cash and accounts of the shop. At that time they had a shop and a petrol station."

"That was a special time, with Feb the boss and Goof. If we had to work late, Feb, George's father, would go and get food from De Berenschieter in the village."



Adrie van Os

"In September 1974 I started at Terberg, with seven other guys from the technical college. As a mechanical benchworker and MIG/GMAW welder I worked on parts for the first terminal tractor. At that time a lot more parts were manufactured here in the plant. I then transferred to the Tools storeroom where I am still working. We issue tools to Chassis production, Machining and Assembly. I also maintain the pneumatic tools. We have had a number of government ministers visiting the site, they often drove a completed tractor out of the building."



Arjan de Haaij

"I started here in March 1974 as benchworker and machinist. We made a whole range of components, such as steering arms and suspension parts for the terminal tractors. The vehicles got bigger, and we were building more of them. The last few years I have been transporting terminal tractors and chassis, RRs, TTs and DTs between the Benschop factory and the spray painting contractor in IJsselstein. We use a trailer and electric Volvo road truck. I'm behind the wheel two days a week, sharing the job with two other drivers. I really want to reach the full 50 years here." 🚧

"I used to weld parts for the first terminal tractor."

"When I left school I could only do arc welding with stick electrodes. Here I learned MIG/GMAW welding."

"You can always borrow tools, if you ask."

"They were very frugal, instead of throwing bread out you would put it in the kitchen for the horses."

"When we started here in 1974 it was 10% terminal tractors and 90% trucks, later it was the other way round."

"The machinery in the factory got bigger, and we got more of them as we were building more vehicles."

"Terberg is green, that's why we have the electric Volvo truck for transports to the spray painting shop."

"I do know a good story, but you'll have to turn that recorder off."

"If there was something to celebrate they organised a really good party, and fortunately they're maintaining that tradition."



Jan van Zuijlen: looking back on 50 years of terminal tractors

We were lucky to be able to interview somebody who was involved with the production of Terberg terminal tractors from the very beginning: Mr Jan van Zuijlen who joined the company 1961 and retired in 2000.

"When I started working at Terberg in 1961, they were converting GMC trucks by fitting additional parts, or a tipper body. In 1973 I became head of the Assembly department. At that time, Goof Terberg and Head of engineering Joop Bouwmans were developing an attractively priced terminal tractor which was easy to assemble. It was targeted at distribution businesses, and the lifting fifth wheel was a key feature.

I was regularly in contact with the designers, and they came to the Assembly department, from the beginning. The chassis was designed in-house and we also built it here. At that time we even did the spray painting ourselves, in the middle of the factory. When I started here we built two or three vehicles every week, and by the time I retired that had risen to ten or twelve. Initially, each vehicle had just two electrical cables, later we added printed circuit boards and smart features.

When I started here they had just built the first factory building. That looked far too large, but was fully in use within two years. And in the 1970s they built on the other side of the site. Initially those buildings were empty, but they were soon taken into use. Even at that time, Terberg was already looking far ahead. And that was necessary, because it takes a long time before a vehicle reaches the market.

I witnessed the introduction of computers. Initially they were complicated. But I enjoyed that, you could do a lot with them. And the introduction of the ISO standards, of course. Training was also important, for example about hydraulic systems. We did training in-house or externally.

I'm now 86 and I've enjoyed a lot of things in life. Both my wife and I are in good health, and I like to play billiards and go cycling. And we are still living close to the Terberg plant in Benschop." 🚧

1970s

1973 First terminal tractor launched



1980s

1982 New model Terminal Tractor
1987 New model Terminal Tractor & RoRo tractor (TT/RT) launched



1990s

1991 Yard Tractor (YT) launched
1992 Body Carrier (BC) & Container Carrier (CC) launched
1997 New model TT/RT launched



2000s

2003 RT382 for heavy duty RoRo & Industrial use launched



2010s

2010 Rail/Road (RR) launched
2014 First full electric YT202EV and DT launched
2017 AutoTUG/Drive By Wire launched



Recent developments

2020 Hydrogen tractor launched
2020 New YT launched
2023 Proof of concept RTEV





Benschop plant expansion - good progress

In the last issue of our magazine you may have read about the expansion of the Low Volume Assembly (LVA) facility. This is where all tractors other than the YT and DT models are built.

We interviewed Daan de Nie, Manager process engineering, about progress “Everything is going well, we are on schedule with the construction of the new building which covers 2,000 m². The plan is to transfer production to the new building by Christmas 2023. Then the old building will be refurbished in the first half of next year. That includes fitting new climate control systems, crane tracks, roofs and walls. During the production stop in the summer of 2024 we will move production again and join up the refurbished and new buildings to form the new LVA. The



only setback has been that the local electricity network does not have enough capacity for connection of the solar panels we had planned. So that will have to wait until the network is upgraded. Fortunately we already have many panels on the other buildings on the Benschop site.

Once all the building works are completed we will have four assembly lines, each with four stations. The preassembly areas, where smaller units are combined into subassemblies, are located between the assembly lines. Using preassembly stations helps us to balance the production line, and create a balanced and lean workflow. This results in increased efficiency and higher production.

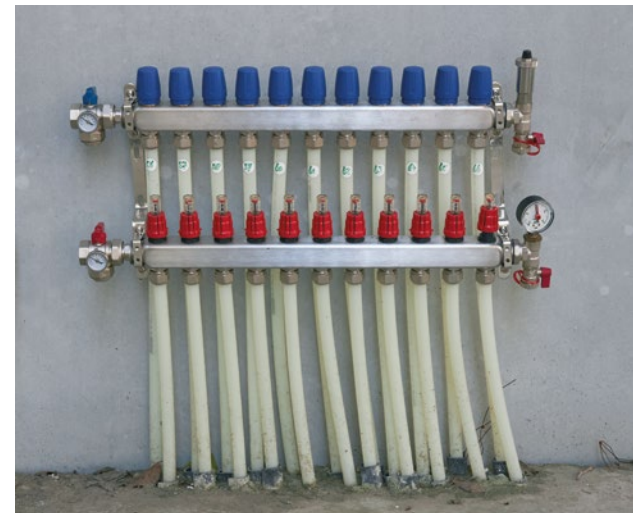
Separating preassembly and main assembly gives us more flexibility and makes it easier to scale up production.



Daan de Nie,
Manager process engineering

“Using preassembly stations helps us to balance the production line, and create a balanced and lean workflow.

This results in increased efficiency and higher production.”



The climate control system uses heat pumps so we no longer need natural gas. Other energy-saving features include doors which open and close quickly to reduce heat loss. The overhanging roof section ensures the sun does not heat up the building and the people working in it too much, for a more ergonomic work environment. We are also improving other ergonomic aspects, reducing the need for manual handling, and continuing the adoption of the 5S methodology for workspace optimisation. So this will be a really good building to work in.

To keep up with the increased productivity in the Assembly departments we need to improve our PreDelivery Inspection (PDI) as well. Now that TTN has moved to its own building we have been able to improve and optimise this process.

Finally, the Process Engineering department is also involved in the construction of the Terberg Taylor Americas YT manufacturing plant. The layout of the plant is based on the High Volume Assembly in Benschop. I'm really enjoying working on this project and with that team." ▀



VIDEO

SWEDEN

RTs: key product line for distributor N.C. Nielsen

Per Löthner told us more about the markets Nielsen serves "We supply Terberg vehicles in Sweden, Denmark, Norway and Iceland. I am also the main contact person with the Terberg factory in Benshop. The RT tractors are very popular here, not just in ports but also industry, warehouses and distribution centres. That is because their four-wheel drive enables them to operate in heavy snow.



Some of our customers have really interesting applications. For example, CS TruckService, which provides handling services at the Outokumpu steel mill in Avesta, Sweden, fitted additional shields to their RT, and an emergency door. That unit handles slag pots, if the hot slag is accidentally dumped onto a wet area you get a steam explosion and slag flies around, so the tractor needed special features to protect against that. The port of Gothenburg in Sweden uses RT403s with the side-shifting cabin to handle extra large SECU boxes. One of our customers handling paper products fitted their units with automatic disconnection of the air and electrical connections.

Terberg is very successful in this market because of the high quality products that they deliver. We see a real demand for an electric RT as some ports strive to become emission free, so we are looking forward to the electric version of the RT that Terberg is currently developing. ▀



THE NETHERLANDS

The Terberg Distribution Tractor was developed for busy distribution centres where semi-trailers are frequently coupled and uncoupled, and sites with both pedestrians and vehicles. Mainfreight is a worldwide logistics services provider. They recently started using two DTs at their site at 's-Heerenberg in the Netherlands, to improve the work environment of their drivers.





FINLAND

RT223s hard at work in the port of Helsinki

Sigma Trukit has been Terberg's distributor in Finland for over 20 years and now also supplies Terberg Kinglifter truck-mounted forklift trucks. As in other Nordic countries, the Terberg RT models with 4x4 drive are popular in Finland as they can handle heavy loads even in cold winters. Sigma Trukit serves customers in ports, heavy industry and the timber industry.

Finnsteve stevedoring in the port of Helsinki has a history going back to 1888. They are part of the Grimaldi Group, a longstanding Terberg customer. Finnsteve recently started working with our machines and invested in six RT223 tractors. The units are used for RoRo operations with trestles and with goosenecks. Finnsteve service the vehicles in their own workshops. ▀

Mainfreight very happy with their DTs

Guido Roes has 21 years' experience as a shunter driver and told us more about his work "We use the tractors to shunt semi-trailers and drawbar trailers. Each driver shunts around 60 units every shift, and we work in three shifts. We start Monday morning and finish Saturday afternoon. So the tractors are used very intensively. In addition to the two DTs we also have three YTs and a Terberg Body Carrier.

We were already very happy with the YTs, but the introduction of the DT model meant a significant change. The work is now physically much less demanding, the low-entry cab means there are fewer steps to go up and down. A shunter driver has to enter and leave the vehicle around four times for each trailer movement. The low entry saves us 18 steps every trailer move. You can leave the cab on both sides, that reduces the distance you have to walk. Also, you can leave on the side with the least amount of traffic, that's safer. And you can connect the air hoses from the left or the right. The cab is higher, so tall people no longer have to stoop. One of us had some physical issues, not related to work, and those



practically disappeared with the introduction of the DT.

At the beginning we really had to get used to our eye level being lower, especially as the trailer is very high up compared with the seat. However, once we got used to it that was no longer a problem. The lower position of the seat results in better eye contact with the other traffic, cyclists, pedestrians and car drivers. On the industrial estate here there are some objects which used to obstruct our view, but

"All in all, we are very happy with the tractors and we would certainly advise others to opt for a low-entry tractor."

with the low seat height we can see under them, for improved traffic safety. All in all, we are very happy with the tractors and we would certainly advise others to opt for a low-entry tractor." ▀



THE NETHERLANDS

Terberg Tractors Nederland settled at new site

In the summer TTN moved from the Benschop factory to its own site in nearby Lopik. The building was completely refurbished and provides the perfect working environment for the employees at the office and in the workshop.

On August 24 and 25, the new location of Terberg Tractors Nederland, at Lopik, was opened. The company, commonly referred to as TTN, was founded in 2021 for the sale and rental of terminal tractors in the Netherlands, and an emphasis on after-sales and maintenance, both at Lopik and at customer sites. The new building is another step in TTN's success story, bringing the company closer to the customer.

The memorable day was celebrated with customers, business contacts, employees and stakeholders. There were a VR race simulator, portrait artist and a photobooth, and people enjoyed snacks and drinks at various food trucks. Royal Terberg Group Chairman of the Board, Godfried Terberg, conducted the official opening on August 24 in the presence of Terberg family members and board members.

Under the leadership of Director Dave Brouwer and General Manager Johan Bood, Terberg Tractors Nederland will continue to grow towards its objectives. The company is going to focus more and more on making life easier for the customer, so they

can focus on their core business. Moving into this new building is only the first step in this growth process.

Benefits of the new site

Johan Bood, General Manager TTN "Because of our expansion we had run out of space in Benschop. This new site also emphasises our identity - we are not an extension of the factory, but a sales and service organisation which is close to its customers. This enables us to guarantee their mobility and ensure that the vehicles are always in perfect condition. More and more Terberg customers contract maintenance and repairs of their vehicles out to us. The rental fleet also keeps expanding, and these vehicles are supported by a full maintenance package.





THE NETHERLANDS

Vink deploys versatile YT

Vink in Bameveld, in the centre of the Netherlands, provides a range of products and services to the construction industry. They recently purchased a YT193 with PTO and hydraulic pump. The tractor is used with a concrete mixer trailer to collect the mix from the on-site concrete batching plant and then deliver it to construction sites in the area. The YT is also used with a hydraulically operated tipper trailer. This is used for transporting recycled concrete aggregate and other materials on the site. Finally, the tractor is also deployed with several other trailers to transport road plates and concrete blocks.

The YT193 has a regular driver. His T driving licence for agricultural tractors allows him to take the vehicle onto public roads for deliveries to customers in the area. He is very happy about working with the machine, and really proud of it. ▾

General maintenance is undertaken at customer sites, by our eight technicians with mobile workshops. The parts stocks in their vans are topped up overnight. There are also support sites throughout the Netherlands where they can collect parts and leave waste oil. The vehicles come to our workshop for major repairs and modifications, as well as mid-life upgrades. This is also where we train new fitters. This enables our people to develop into all-round fitters.

“In short: we now have the perfect conditions to support our customers with advice, sales, rental and service.”

The workshop is large and uncluttered, and the floor is kept clear where possible. The mobile vehicle lifts are battery powered. We can move them where they are needed, and the rest of the time they are out of the way. There is a mobile unit with air tanks for fitting and removing wheel nuts, so there are no hoses across the floor and it has a lower noise level than conventional equipment. There are two workstations for electric vehicle maintenance.

We had more windows fitted in the offices. Everything has been refurbished and we have new furniture. All our teams are in close contact with each other so they can provide better support to our customers. This is also where we monitor vehicles fitted with the Terberg Connect telematics system, to optimise maintenance.

Our building is now net zero. We have 192 PV panels on the roof and a ground source heat pump. Both the workshop and the offices have underfloor heating and cooling. Of course, there are charging posts for cars and commercial vehicles. ▾



A compilation of the opening on August 25.

Celebrating a success story - 25 years of Terberg DTS UK



UNITED KINGDOM

As a family business, Terberg has always wanted to be close to its customers. Our international subsidiaries such as Terberg DTS UK, help us do that.

We interviewed Alisdair Couper, Managing director of DTS and member of the board of the Special Vehicles division "In 1998 a Yorkshire vehicle manufacturer where my colleague Duncan Stewart and I were working, closed down with 125 redundancies. Duncan had met George Terberg at an exhibition, so after encouragement Distribution Tractor Services was formed and we became agents for Terberg Tractors in the Logistics market.

In 2000 Duncan left and the Terberg Group took a majority stake in the business which was renamed Terberg DTS UK Ltd. Due to the continued growth and success of the Terberg product we moved to our purpose-built site in Elland, West Yorkshire. In 2008, DTS relocated to a new purpose-built facility in Elland before again expanding in 2022 with additional workshop and office space. DTS has additional sites in Gloucester and Nottingham, and a fleet of mobile service engineers throughout the country.



Alisdair Couper

“Terberg is like a family: it’s about the values we share with our customers and employees. It’s not a large corporate entity. We all count.”

George Terberg

“When we started working with Alisdair in 1999 nobody could have imagined that this would develop into such hugely successful cooperative venture.

In the past 25 years, under Alisdair and his team, Terberg DTS has developed into a leading provider of service, maintenance and rental of special vehicles. This successful cooperation is based on ‘mutual trust and respect and always keeping the customer in mind’.

We are the leading supplier of shunters and port tractors in the UK, but have never lost sight of our competitors. DTS has diversified into fire and rescue vehicles and ground support equipment for airports and is a major partner to the UK Ministry of Defence. We operate 24/7 in support of our customer base, as well as maintaining our own fleet of rental vehicles across multiple sectors.

UK logistics operations operate at a higher frequency than elsewhere. In response, we developed the low-entry Distribution Tractor (DT) which makes drivers’ work easier and safer. It provides better visibility during coupling and uncoupling and the controls are at the driver’s fingertips to reduce fatigue.

Constant focus

The vision of the business has always been to be customer-focussed and innovative in solving problems. That means training our people and supporting their development - precisely the Terberg ethos. We have also championed electric vehicles in our sector. Customers increasingly want to rent rather than purchase vehicles, and outsource maintenance - we can do that. In short, we want to keep listening to our customers and support them with their challenges.”

UNITED KINGDOM

The unique Terberg DT low-entry tractor

Our Distribution Tractor was specifically developed for British retail chains to improve safety and workplace conditions at distribution centres.

Health and safety are taken very seriously in the UK. This led to the development of refuse collection vehicles with low entry cabs such as those built by Dennis Eagle, a Terberg Environmental company. Terberg DTS director Alisdair Couper saw the opportunity to apply this concept in the distribution sector. Drivers at distribution centres have to leave and enter the cab up to four times for each of the around 70 semi-trailers they handle during an 8-hour shift. When using traditional high-entry cabs that is physically demanding, especially for older drivers. Positioning the cab ahead of the front axle makes it possible to place it lower, so entering and leaving the vehicle takes only two steps - easier and safer.

Perfect for mixed traffic sites

The DT cab is large and comfortable and all the controls are placed around the steering wheel so the driver can keep two

hands on the wheel at all times. Additionally, the cab has doors on each side, for more operational flexibility. Another advantage of the low-entry cab is that the driver is roughly at eye level with pedestrians and forklift truck drivers. Together with the excellent visibility due to the large windscreen this makes operations safer and less stressful at busy distribution centres.

Market acceptance

The DT is very popular in its home market, the UK. The demand in other markets is lower, primarily because the operating practices are different and drivers leave and enter their vehicle less frequently. However, the growing importance of health and safety, workplace conditions and an ageing workforce now make the DT an attractive proposition in other countries. For example, Mainfreight in the Netherlands recently took delivery of two DT183LEs for cross-docking operations. 



Alisdair Couper on the development of the DT

“The drivers are proud of their DTs and really look after their vehicles.”





TSF: constantly focusing on the customer

As a sales and service company, it is essential for us at Terberg Spezialfahrzeuge (TSF) to put the customer at the centre of our activities. The key question is therefore "How can we modify our processes so they offer greater added value to our customers?"

In response, TSF has restructured its sales territories and at the same time consistently implemented data maintenance in its Customer Relationship Management (CRM) system, developed additional service locations and brought qualified employees from other areas of logistics into the team. TSF has also established processes that enable us to understand the needs, wishes and expectations of our customers, and to address these with the services offered and in our communications.

Patrik Neuwinger, Head of sales at TSF, sees the ability to fulfil customer expectations as a decisive competitive advantage. TSF attaches great importance to the effective onboarding

of new employees through product training and effective coordination between external sales and internal processing.

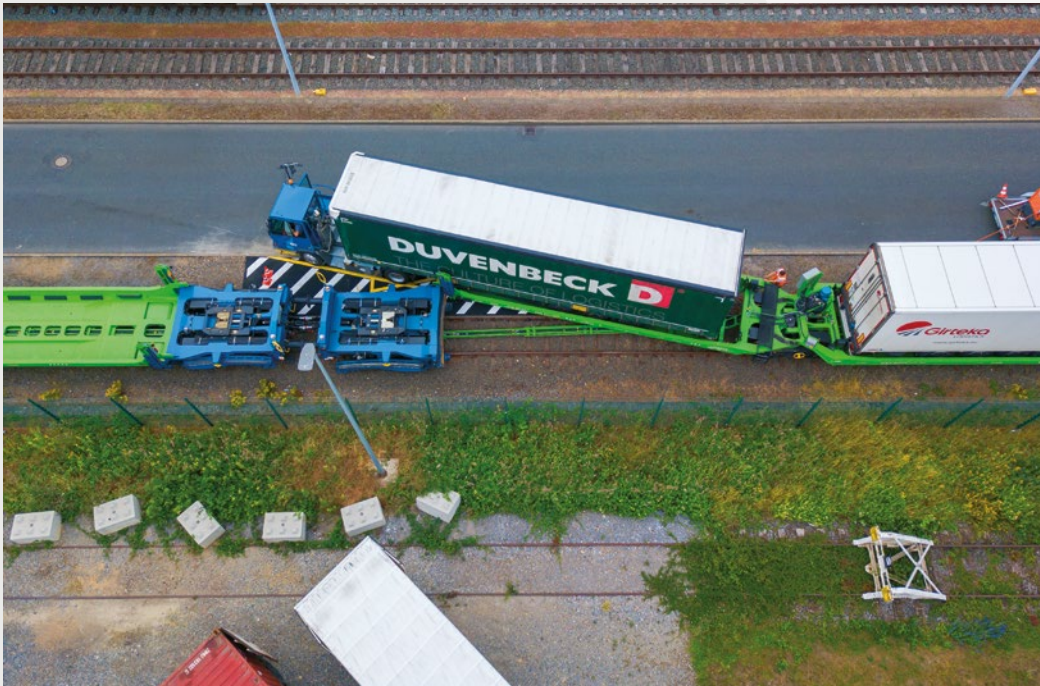
In addition to smooth sales processing, marketing, trade fairs and Terberg Rental also play important roles. We can build strong relationships through communication which offers real added value to the customer. At TSF we get close to our customers at trade fairs and demonstration days, and we aim to build long-term customer loyalty based on customer satisfaction. These demonstrations are made possible by our own constantly growing rental fleet and form a further link in the sales chain. ▀

Strong demand for electric swap body carriers in Germany

Patrik Neuwinger, Head of sales at Terberg Spezialfahrzeuge provided an update on the German market "There is a lot of interest here in electric vehicles of all types because of the environmental regulations. The electric swap body carrier will be a huge step towards zero emission distribution hubs. That is particularly relevant to hubs close to residential areas. The lower noise and vibration are a bonus because our customers also want to make the workplace conditions as pleasant as possible for their employees."

GERMANY

YT-EVs support Helrom in reducing carbon emissions



Reducing global CO₂ emissions is essential, and innovative transport concepts can support this goal. The modal shift from road to rail can help reduce carbon emissions. This is particularly relevant in countries such as Germany where railways mostly operate using green electricity. However, the stumbling block is transferring semi-trailers to and from rail wagons. One option is to use cranes, but that requires special craneable trailers. Another option is the use of special terminals. However, the construction of such terminals requires considerable investment, years of construction time and future route planning is inflexible in terms of location.

Helrom solves these problems. The company uses an innovative and worldwide patented trailer wagon with a pivoting ramp. This means shunter tractors can quickly load semi-trailers on and off the wagons. One key advantage of the Helrom system is that it works with all types of semi-trailers and needs no special infrastructure, just level ground along the railway track. The company is currently using this system for transporting thousands of semi-trailers every year between Vienna and Düsseldorf. In the past three years this route has taken more than 16,000 semi-trailers off the road, preventing more than 10,000 tonnes of CO₂ emissions.

To further reduce carbon emissions Helrom use YT203-EV tractors. Christian Schindler, Senior Manager Trailer Hubs & Dangerous Goods Officer "We have

had a good customer relationship with Terberg for many years. By switching to electric terminal tractors, we can continue on this path to the Net Zero Economy together. We also owe it to the environment."

Helrom ordered six YT203-EVs, two of which are already operating at the Düsseldorf terminal. The vehicles are serviced by TSF's specialist electric vehicle technicians. TSF is proud to be working in strong partnerships with innovative companies such as Helrom to implement the Net Zero goals. ▀



WEBSITE

IRELAND

Terberg MPM Ireland keeping busy with some truly special projects

This Terberg subsidiary serves the whole of Ireland, north and south of the border. They have a rental fleet and are experiencing a growing demand for full service contracts. Their product portfolio also includes fire and rescue equipment, and Seacom trailers.

Soil remediation

A recent special project was the supply of three RTs for a soil remediation project near the west coast of Ireland. After the demolition of a pharmaceutical plant work started to excavate over 200,000 tonnes of contaminated soil, occasionally down to a depth of nine metres. Inside a sealed enclosure the soil is loaded into special containers which are then picked up by dedicated trailers pulled by the RTs. These tractors were selected because of some steep gradients on the site, and because of the contractor's good experiences with



Terberg vehicles on other sites. The RTs are maintained by Terberg fitters with mobile workshops. The drivers had not used Terberg tractors before, and are delighted by the product and the immense pulling power.

Colourful YTs

Two customers have made a special effort to make their Terberg vehicles stand out. Jas McCarthy Transport is a family-owned transport company operating out of

Carrigtwohill, County Cork. They specified a special metallic paint for their YT193 and then added yellow highlights and alloy wheels - probably a first on a Terberg tractor!

Murphy Transport is also a family business. The company has its headquarters in Cork City and offers a full-load service covering all of Ireland. Their YT193 is finished in the company's livery of green and cream, with red detailing. ▀

BELGIUM

Terberg Tractors Belgium Andiprim happy with fully-specced DT

Andiprim specialises in fruit and vegetable transport and is located in Sint-Katelijne-Waver in the centre of Belgium, close to Europe's largest produce auction. Andiprim's first Terberg was a YT222 and they recently purchased a DT183-LE, used at the auction site and on public roads in the surrounding area.

An Andiprim spokesperson commented "We selected the DT because of the low-entry cab, we have to enter and leave the cab frequently. The next time we will definitely get a DT again rather than a conventional model. The visibility is much better, the cab is large and the steering is very light. The driver enjoys working with the machine: comfortable and quick.



We specified a full package of options, such as air conditioning, lots of LED work lights all around, a deluxe ISRI seat, Terberg Connect telematics - the lot! The DT is used for shunting trailers and taking them to the trailer wash, and collecting fruit and vegetables from the auction in the morning. TTB looks after all the servicing and repairs." ▀



PORTUGAL AND SPAIN

Terberg Iberia continues to grow

This is the second full year of Terberg Iberia and the company is now well-established in Portugal and Spain.

Terberg Iberia Manager Eric van't Westeinde "Because of our growing market share and the demand for outsourced maintenance we have just decided to expand our service workshops in Valencia and Madrid, in Spain. To give technical support to tractor customers in Portugal we are now working with Resitul. They are a subsidiary of the Terberg Environmental group and supply refuse collection vehicles and road sweepers. Resitul have a fleet of service vans, as well as two workshops for larger repairs and can therefore offer Terberg tractor users in Portugal a rapid response, backed-up by overnight delivery of spare parts from the main warehouses at Benschop and Madrid.

We have supplied a lot of RTs and YTs to port operators, for example in Valencia, Santander, Cadiz, Barcelona, Las Palmas, Porto and Lisbon. Also a few YT-EVs, though the adoption of electric vehicles is still fairly slow in our region.

Most distribution centres here use road tractors for shunting, which is slow and inefficient. So it is an exciting development that we are now breaking into this market with both YTs and BCs. These mostly go to subsidiaries of multinational companies which are already using Terberg vehicles in other countries. So I am looking forward to further growth in this industry and helping operators to work more efficiently and improve workplace conditions for drivers.



There is a significant demand for the Terberg/Zagro road/rail vehicles here. We have supplied a number of these to industrial sites with their own rail terminals. Recently we received an order for two RR283s, the new model which has just been launched. Those will go to a steel mill. ▀



ITALY

Terberg Manuport busy in Genoa and beyond

Director Fabio Fiorenzuola told us about how Terberg tractors are sold and supported throughout Italy "In 2004 my brother Paolo and I set up Manuport, and in 2018 we became part of Terberg. Our offices and main workshop are based in Genoa, near the port. We also have a second workshop within the port, close to the RoRo terminals operated by our customers. Genoa has the largest port in southern Europe.

We have customers throughout Italy, not just in ports but also in logistics and distribution, including large companies such as BRT, FedEx and Amazon. We support those customers with a fleet of our own mobile workshops. There are also authorised third-party workshops so even customers on the islands of Sardinia and Sicily get effective support. Twice a year we invite fitters from

the external workshops, and some customer workshops, to our training sessions. That ensures they are fully familiar with the latest developments.

We recently updated our website, in-line with the standard Terberg design.

Product range

We supply a broad range of products: Terberg tractors, Terberg Kinglifter truck-mounted forklifts, Seacom trailers, Liftec translifters, Meclift telescopic forklift trucks for unloading containers and sfPORTEQ container spreaders. That means our customers can get a wide range of products and support from a single source.

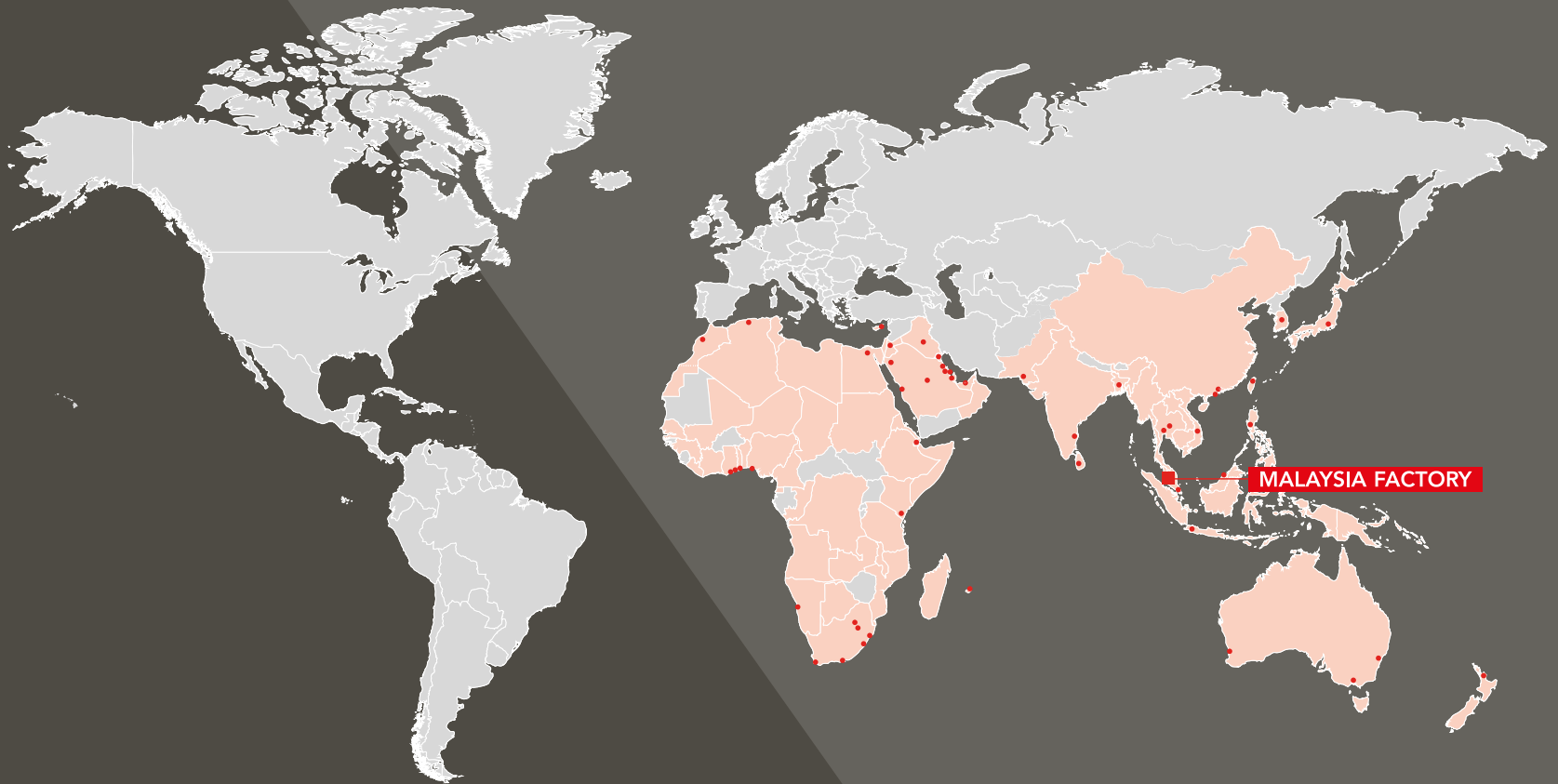
Operators here are very familiar with swap body carriers. Bartolini Courier has recently started working with them so we expect that market to grow.

Steel industry

Terberg RTs are widely used in the steel industry, which is concentrated in the north



of Italy. One of our long-standing customers is La Cisa, a specialist steel industry logistics operator operating in Europe and the USA. We recently supplied them with eight RT403s, our heaviest units, and Liftec translifters. They handle payloads up to 200 tonnes and La Cisa selected the units because of their power and reliability. Those tractors are now working at the Arcelor plant in Marseille, France. ▀



ASIA-AFRICA



Terberg Middle East
Andrew Partridge

This subsidiary is located in Dubai and supplies our tractors and spares throughout the Middle East and Africa and provides after-sales support. Our vehicles have proven to be fully capable of dealing with the demanding climate conditions in these areas.

DUBAI



Terberg Tractors Malaysia
Boo Wei Ching

This company is a joint venture of Terberg Benschop and Sime Darby Industrial Sdn. Bhd. In Malaysia, Terberg tractors are produced locally for the markets in Asia and the Pacific.

MALAYSIA



EGYPT

SCCT extends Terberg fleet

The Suez Canal Container Terminal is strategically located at the mouth of the Suez Canal, one of the busiest shipping lanes in the world. It gives excellent access to key markets in the East Mediterranean and Egypt. SCCT has been using Terberg terminal tractors since 2008. They recently took delivery of another 14 YTs fitted with options such as ISRI seats and a safety frame behind the cabin.

SCCT has a strong focus on eliminating downtime. They selected Terberg tractors based on the good after-sales support and the high quality, long life, ease of servicing, corrosion protection, reliable driveline and higher residual value of the vehicles. The terminal and Terberg distributor Kabadaya Specialized Equipment have built up a long-standing partnership.

SCCT's drivers are happy with the vehicles because of the good cabs and excellent driver comfort. The vehicles are maintained in-house by trained service technicians. Kabadaya also attends the site when necessary and supports

the customer with developing the preventive maintenance programme and technician training in Arabic and English.

Kareem Hozaifa, General manager of Kabadaya Specialized Equipment "We are thrilled and honoured by our long-term dealership alliance with Terberg extending back to 1994. The ability of Terberg and Kabadaya staff to come together in supporting each other and our clients during the years has been exceptional. We are excited to keep developing a prosperous relationship with all clients, especially the new global key accounts terminals which are going to start operations in Egypt." ▀

Kareem Hozaifa

"We are excited to keep developing a prosperous relationship with all clients,"

MALAYSIA



Terberg Tractors Malaysia's new premises

Terberg Tractors Malaysia (TTM) recently moved into a purpose-built new head office in Puchong, Selangor. This provides an excellent work environment for our people, and a place where they can meet customers.

One of the aims of the interior design was to bring internal balance, promoting a more efficient working environment. The design incorporates the five elements of feng shui: earth, water, fire, wood, metal. Each floor has its own colour scheme. The rooftop garden can be used for working or entertaining, with a view of the surrounding nature. On the top floor a range of paintings and antiques are displayed, to enjoy while resting the body and soul in the chill-out area. There is also a workshop on ground level, for servicing and inspecting terminal tractors. The new building fulfils TTM's ambition of having its own building with a clear and visible brand identity. ▀



MALAYSIA



Terberg Tractors Malaysia: serving new and existing customers

Many TTM customers want to reduce their environmental footprint and fuel costs. The fuel-efficient diesel tractors and fully electric units built by TTM enable them to do this, while also benefitting from more efficient operations and maintenance. TTM is proud to be able to produce terminal tractors of various drivelines, ranging from 4x2 driveline, 6x4 driveline, diesel models, liquified natural gas (LNG) models, fully electric models, and soon to come fully autonomous model. TTM's diversity and expertise in its range of product allows them to position as the preferred terminal tractor supplier across the Asia Pacific region.

In 2020 Evergreen Line in Taiwan started a trial with three Terberg tractors, to compare them with the road tractors used at the time. Based on the positive outcome of the trial the company has ordered numerous TTM tractors, most recently 18 YT220s single cabin and 20 YT220s twin cabin for their operation in Taichung and Taipei respectively.

PSA Singapore recently took delivery of 50 YT220 LNG tractors for use in Pasir Panjang Port, as part of PSA's green initiatives. These tractors are used 24/7, clocking up at least 500 running hours per month.

Infinity logistics and Transport in Malaysia operate a warehouse covering around

23,000 m² and have just started working with Terberg YT tractors. This a good example of TTM's expansion into the non-port market in Malaysia.

MCR Logistics group at Port Klang, also used to use road tractors for shunting duties. They decided to invest in three YTs for environmental reasons. The units are used for customers such as IKEA and Nestlé. As a result, they now benefit from a huge saving in fuel, and the lifting fifth wheel makes coupling and uncoupling much more efficient. The tractors with automatic transmissions have also proven to be more reliable than the road tractors, and easier to use in tight spaces. ▀

Customer quotes

"The YT200EV 175 kWh electric terminal tractor has replaced 3 of my tractor fleet as it does not require much maintenance. It also can last up to 10 hours of operation on a single charge. I am also able to capture new clients that are looking to increase their effort in ESG implementation. It's a win-win situation for all."

"My back does not ache anymore after switching to Terberg's special vehicle. Maybe because my back does not need to work so hard from getting in and out the vehicle. Also, the seat is comfortable with the added air suspension."

"I enjoy using Terberg's terminal tractor in my operations as it allows me to reduce expenditure on fossil fuels up to 30%! In the meantime, I am able provide my vehicle operators a safe environment to carry out their duties."

MALAYSIA

TTM receives award from the Port of Tanjung Pelepas



PTP is the largest port in Malaysia with a monthly capacity exceeding one million TEU. It is taking sustainability to the next level with strict ESG requirements that all its vendors must comply with. The port plans to gradually upgrade its fleet from fossil fuel powered to fully electric terminal tractors. Terberg Tractors Malaysia was invited to participate in their vendor day exhibition to showcase the latest

YT200EV in October 2023. The event was attracted many people from the logistics industry and the vehicle attracted a lot of interest. The event ended with a dinner where Terberg Tractors Malaysia received an award from PTP, as a top supplier delivering high quality product, service, and support. ▀

DUBAI

Terberg Middle East - training trainers

Daniel Gambba-Jones is After-sales manager at TME, supporting customers in the Middle East and Africa. He has been with Terberg since 2014. Daniel looks after spare-parts supply, service, warranty and training.

He explained how TME delivers training to customers "We normally provide Train-the-Trainer sessions, for customers or Terberg distributors, and sometimes we train workshop mechanics. That covers the construction of the Terberg vehicles, technical diagnostics, major components and maintenance. We also provide driver introduction sessions, to familiarise drivers with our tractors. Many will have driven a Terberg machine before, usually a YT or RT, so we just have to tell them about any new features.

The training is delivered by James Wilcockson, our product support specialist. He not only has experience of heavy vehicle maintenance but also has a UK City & Guilds Train-the-Trainer qualification. He gives some courses here at the TME offices in Dubai, UAE and also travels around the region to our customers' sites. Cummins and Allison are located near us and we sometimes partner with them to deliver in-depth training on engines and transmissions.



We are obviously part of the whole Terberg Academy, with its global training vision, and we are fully supported by our colleagues in Benschoop and at other training locations. This year we have trained people from Iraq at our offices, and provided on-site training in Jordan, Kenya, Mozambique and other countries. In the past we relied on trainers from Benschoop, but having James here at TME means it is now easier to provide training in the region, also to our distributors. As a result we can offer the highest service level. After all, the Sales department might sell a customer their first vehicle, but they'll only buy further units if they receive excellent After-sales service." ▀

NIGERIA

Terberg Tractors commissioned at Ports & Terminal Multiservices Ltd (PTML GRIMALDI) in Nigeria



Paterson Simons recently commissioned and handed over 3 x Terberg RT283 RoRo Tractors and 4 x Terberg YT223 Yard Tractors to Ports & Terminal Multiservices Ltd – Tincan Island, Lagos, Nigeria (PTML GRIMALDI).

These machines have been added to PTML Grimaldi's existing fleet of Terberg RoRo and Yard Tractors.

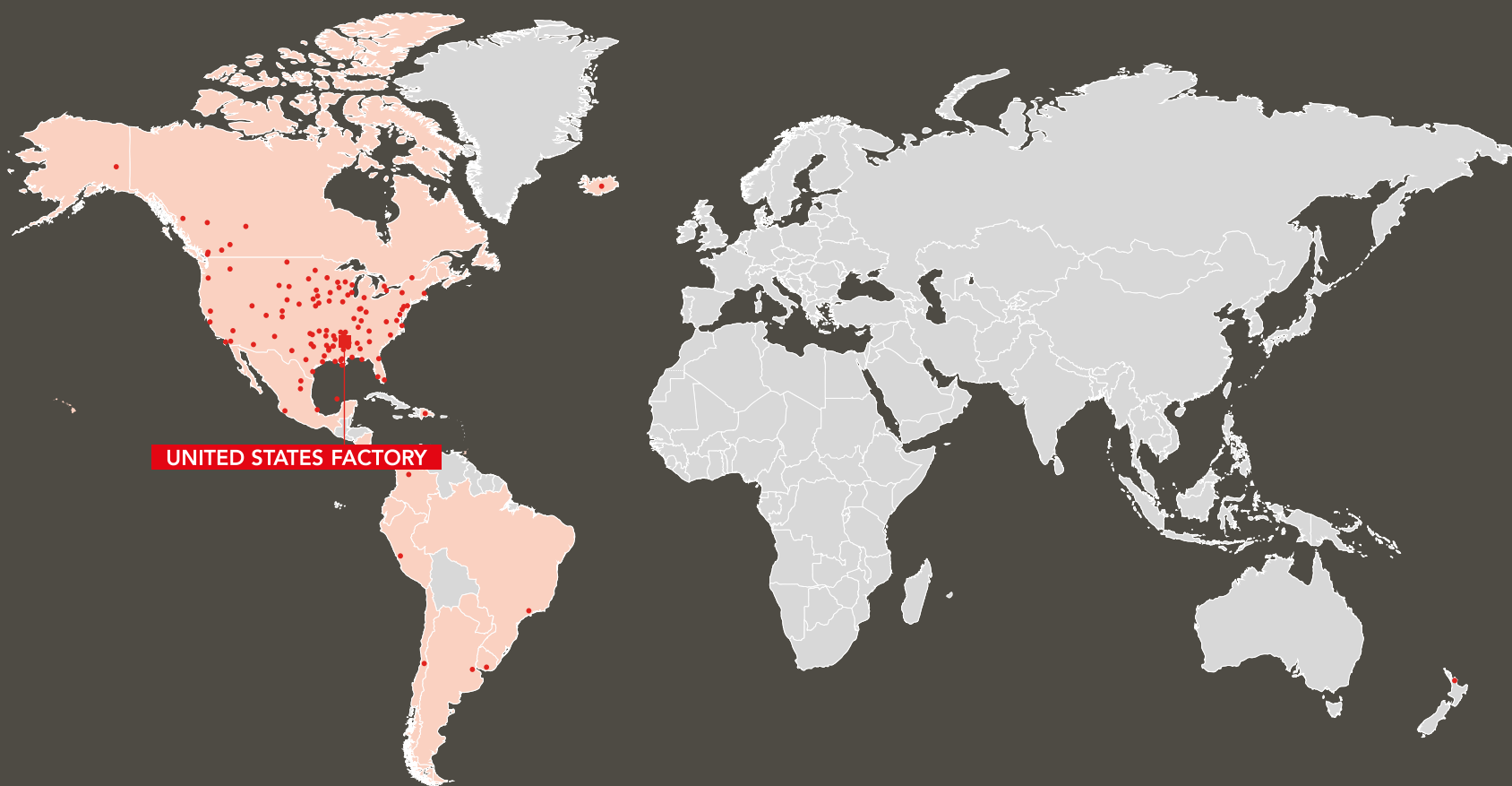
Christian Okoro, Service Engineer at Paterson Simons handed over the equipment to Ivano Banini – Workshop Superintendent at PTML Grimaldi.

The Terberg Yard Tractor is well-suited for the demanding conditions of moving trailers in ports and container terminals. Its versatility extends beyond ports, as it is also used in distribution centers and airports in the region. Off-dock terminals and inland terminals have extensively utilized this adaptable machine.

Terberg's RoRo Tractor has become the preferred choice for ports throughout West Africa. With our dedicated engineers stationed at ports in Ghana, Nigeria, and Togo, round-the-clock service and maximum uptime are ensured. The Terberg RT 223/283/323 RoRo tractors, specifically designed for Roll-On/Roll-Off operations in ports, are often employed for heavy-duty tasks under challenging industrial conditions. ▀



Christian Okoro handed over the equipment to Ivano Banini – workshop superintendent at PTML Grimaldi.



AMERICAS



Terberg Taylor Americas
Ferdinand Terberg

terbergtayloramericas.com

This subsidiary is based in Miami and serves North, Central and South America and brings us closer to our customers in these regions. TTA offers our full range of tractors.

USA



Terberg Taylor Americas
Manufacturing

Nico Overgaag

terbergtayloramericas.com

This subsidiary builds YT tractors for the American market.

USA

TTA assembly plant in Columbus **near completion**

The construction of the new Terberg Taylor Americas tractor assembly plant in Columbus, Mississippi is progressing rapidly. Nico Overgaag, Managing Director of Terberg Taylor Americas Manufacturing, gave us an update "I joined the company earlier this year. At the moment I'm primarily a Programme manager, coordinating the projects which will lead to the start of tractor assembly operations in January 2024. After that I will act as Plant manager. We will be building YT193 and YT223 yard tractors.

We are on schedule and about to finish construction of the building housing the plant and warehouse. The offices will follow in March, so we are now working in temporary offices close to the site. The total built-up area is 5,000 m², about 54,000 square feet. The warehouse is now receiving stock and should be filled by the end of the year. Our assembly

"We use a buddy system, with people from Benschop *teaming up with their counterparts here in Columbus.*"

line is being installed now and is basically the same as the YT line in Benschop, but in a straight line rather than their U-shape.

The people behind the tractors

Once everything is up and running in 2024 we will have 58 people working here in the plant and at the office. Recruitment has gone well and we only have a few more positions to fill. We are now busy training people, everyone gets a one-day onboarding session about Terberg Taylor and trainers from the Netherlands visit the plant to give product training. We use a buddy system, with about twenty people from Benschop teaming up with their counterparts here in Columbus so the two plants operate in the same way.




"Both Terberg and Taylor are family businesses, so they have a lot in common."

Logistics

We have been working hard on developing effective logistics. Parts from our European suppliers are consolidated in the port of Rotterdam and then shipped to New Orleans for dispatch to the plant. That takes time so you really have to plan things ahead. The interesting thing is that Benschop is also learning from this and making improvements to their operations. And of course, there are the deliveries from suppliers in the USA. By the way, our warehouse only supplies the factory. Spare parts for tractors in service as dispatched from the TTA warehouse in Miami.

Two family businesses

Both Terberg and Taylor are family businesses, so they have a lot in common. But of course there are cultural differences. We address those so we understand each other effectively - basically we're building bridges. Everybody involved in the project is very committed to it, together we are working towards a successful outcome." 



Terberg Taylor Americas hosted the first North American Dealer Days in Benschop to join forces with an updated dealer network

Around June 2022, the Royal Terberg Group and The Taylor Group of Companies started the 'Terberg Taylor Americas Group' joint venture. Together they are setting up a new American manufacturing facility and a professional Dealer Network to support the North American customers. To introduce Terberg, several dealers were invited to join the North American Dealer Days on February 21-22 at the Terberg manufacturing location in Benschop.

Since the start of the Joint Venture, Terberg Taylor Americas Group is fully focused on the construction of a new manufacturing facility in Mississippi which is expected to produce terminal tractors around early 2024 and offers around 58 new jobs. In addition, a large distribution network for the sales, after-sales, and rental is being set up for which Terberg introduced the first North American Dealer Days. Many new and some existing dealers flew over to the Netherlands and were presented with a full program including several presentations and activities.

Chairman of the day, Ferdinand Terberg, vice-president of Terberg Taylor America started the introduction. A team of Terberg employees, management and Board members were present to engage with the visitors. The invited dealers were given a variety of interactive presentations about Terberg and its history, the strategy, the ways of working with sales and after-sales and a factory update. As innovation is one of the core values of Terberg, upcoming engineering plans for the

US market were also discussed. This topic needed input from local dealers regarding their specific knowledge of the US market to set the priorities for Terberg's innovative power. That's how Terberg moves forward together.

The program also included activities like a tour around the factory of Terberg Benschop and a visit to the Terberg museum that shows the history of Terberg. The visitors were also given an extended teleoperation demo by a Terberg partner: Ferrnride, a leader in autonomous trucking.

The North American Dealer Days were a great success for all parties involved. Ideas and knowledge were shared to form a good connection between all companies. The US Terberg Taylor team will process all input and roll-out new ideas to the market. Terberg employees enjoyed the conversations and would like to thank all participants for their time, effort and input. ▀

The evening programme at the Dutch Railway



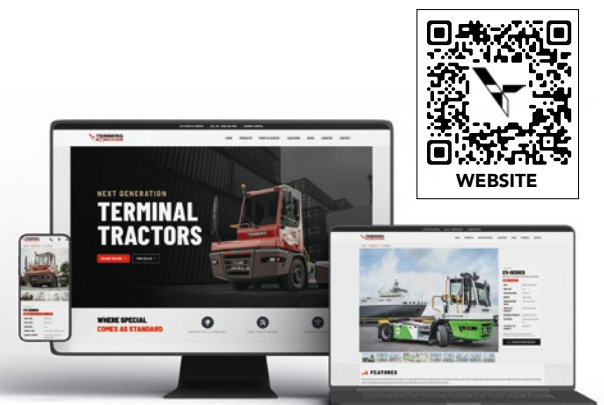
Museum



Terberg Taylor Americas launches new website

Since the start of the joint venture between the Taylor Group and Royal Terberg Group new developments have followed rapidly. To inform the American market about our solutions, we developed a new website www.terbergtaylor.com.

Visitors can find detailed information about the vehicles that are specifically built for that market, check information about the spare parts supply, find local dealers and service points. We also offer information about maintenance contracts and the advantages of Terberg Connect telematics for fleet managers. At the time of writing it also listed a number of vacancies at the new Terberg Taylor plant (covered on page 43). ➤



Terberg Taylor Americas moves to new offices in Miami



Ferdinand Terberg, Vice-President of Terberg Taylor Americas LLC, commented on the recent relocation of the Miami office "Ron van Arkel set this office up in 2014, to serve North and South America. Since that time our operations have greatly expanded so we really needed more office and warehouse space. Our people wanted to stay in the area so we were delighted to find some great office space in the area, which we occupied on 1 October. There are 11 of us in the new offices, measuring around 370 m² (4000 sq ft). We now have a proper meeting room and can receive guests here. Having an attractive office also makes it easier to attract and retain good staff. Miami is a very convenient location

for supporting our distributors throughout the Americas and the time difference with the headquarters in Benschop is only six hours.

We are also moving from two small warehouses to one larger one, around 930 m² (10,000 sq ft), with a staff of three. That is quite challenging as we do not want to interrupt deliveries. The warehouse only handles spare parts, new vehicles are shipped directly from the factory to our dealers.

Continuing rapid growth

These developments are due to our rapid growth, in 2022 our order intake for vehicles doubled and it is still rising. Of course, that

means we are also supplying more spare parts. The rising market share is the result both of the acceptance of our high quality product, offering a lower Total Cost of Ownership, and the excellent cooperation between Terberg and Taylor. Construction of our local production plant, in Columbus, Mississippi, is progressing well and we expect to start supplying US-built tractors early 2024." ▀



Tecbaco

C.I. Técnicas Baltime de Colombia S.A. supplies organic and conventional bananas to markets worldwide. They also provide agricultural services for all parts of the banana production chain.

Tecbaco has been using Terberg tractors for some time. They recently invested in another four YTs to handle containers in their yard. The operators are happy with the performance and robustness of the units and appreciate that the steering works well even on undulating and loose surfaces. They also like the comfortable cabs with air conditioning. ▀

CHILE

TPC at the Port of Coquimbo, Chile

Gonzalo López Roldán, Operations Manager of Terminal Puerto Coquimbo told us about his experiences with Terberg tractors "The Port of Coquimbo has been operated by TPC since 2012, delivering a first class service with cutting edge technology, sustainable with the environment, operational excellence and in charge of a complete team of leading professionals in their areas.



This year, Terberg distributor Tattersall Maquinarias supplied us with 10 Terberg YT220 tractors to support our Site 3 Modernization Project at the Coquimbo Region Multipurpose Terminal. That will allow us to offer a better service, opening opportunities for new customers.

The performance of the tractors has been optimal in operational terms. They have responded well. In terms of maintenance, they provide good accessibility to the important points to check. The safety system is excellent. Maintenance is easy.

All operational aspects are convenient: comfort, peripheral vision, access to the cabin, external protection, safety LED on the floor, camera system. In general, the equipment offers several options for operation and is very robust. Just what we were looking for when choosing our Terbergs. These terminal tractors support efficient, dynamic and safe operation. That means we can achieve the expected performance. The tight turning radius on ramps also makes work more efficient." ▀

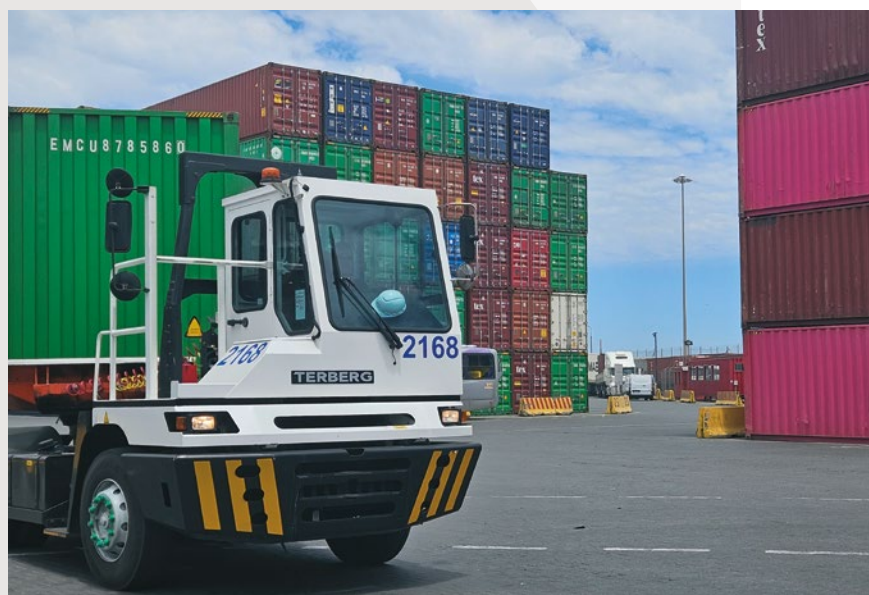
CHILE

Navimag, Chile

Navimag is a cargo and passenger transport company located in Puerto Montt, Chile. They operate a route between Chilean Patagonia and the southern fjords, giving passengers a unique travel experience. The company is currently expanding its range of services.

They started using Terberg in 2009 after Sergio Picarte (then Fleet manager, currently Head of vehicles) and Manuel Fernandez, (then tractor operator, currently Operations Supervisor in Puerto Natales), travelled to Hamburg, Germany in search of shunter tractors to optimise their operations and customer service. They became the first Terberg customer in Chile and operate a number of RTs. Some of their older RT28s have clocked up 42,000 hours and are still working well thanks to the care of Navimag's maintenance department.

Mr Picarte "In 2008 we were looking for tractors to replace some of the units we were using then. We received a quote for used tractors with an average of 10,000 hours of operation and of a brand unknown to our organisation - Terberg. In my opinion they are very good, excellent even. Given our experience over the years I would buy them again." ▀



CHILE

San Antonio Terminal Internacional, Chile invests in YTs



This satisfied customer provided the following testimonial “We continue to consolidate our position as a benchmark for the port industry in Chile and the region. This is demonstrated by the latest tractor fleet renewal: the purchase of 24 YT220s from Terberg distributor Tattersall. Deliveries to the terminal started in January 2023.

The purchase of these tractors represents an important technological advance, replacing equipment that, in some cases, had been in operation for more than two decades. In terms of efficiency and safety, the Terberg YT220s have met the expectations of San Antonio Terminal Internacional, responding to the demanding day-to-day operations.

In terms of safety, these units have a built-in seat sensor that automatically shuts down the machine in the absence of the operator and the ergonomic seats are equipped with

a retractable 3-point seat belt. In terms of operator comfort, the Terberg YT220 offers a smoother operator experience with an independent shock absorber system. Similarly, the lever to operate the fifth wheel is in a position closer to the driver and requires less effort, which is highly appreciated by port personnel.

It is hoped that this equipment will contribute to our terminal continuing to offer excellence and state of the art technology, to continue connecting Chile with the world.”

CANADA

Dealer focus: Cropac, Canada

Cropac was one of the first Terberg Special Vehicles distributors to be appointed in North America.

Olivier Laflamme, the company’s main contact person with Terberg told us more “We became a Terberg distributor in September 2017 and we serve customers in the Province of Quebec and the Toronto region. At first we only dealt with port and industrial customers and in 2021 we started dealing with logistics customers. I am based in Montreal. We sell vehicles and also have a rental fleet. In addition to Terberg equipment we supply Taylor heavy forklifts, cranes and telescopic handlers. In general, port customers do the maintenance in house. We provide them

phone support, supply spare parts and train their technicians. Our logistics customers mostly contract maintenance out to us. The Midland transport company is a good example of a customer in the logistics sector. We supply them with YT shunting tractors for a number of their distribution centres across the Maritime Provinces of Canada. The Montreal Gateway Terminals Partnership serves markets in both the West of Canada and the United States. They have been using Terberg shunter tractors since Cropac started supplying them and have recently ordered another 40 YTs.

Aluminerie Alouette is the largest aluminium smelter in the Americas. We are about to deliver their third Terberg unit to them, an



RT403. That is used in the yard to haul trailers loaded with large blocks of aluminium. They specified a number of options, as well as a custom electrical hook-up for the trailer.

We have a lot of loyal repeat customers, they tend to replace other brand vehicles in their fleet with Terbergs. The drivers like the tractors: completely different from the competition, better ergonomics, better layout of the controls, more comfort.”

HONDURAS

OPC

Operadora Portuaria Centroamericana operates the general cargo and container terminal of Puerto Cortés, in Honduras. The company is part of the ICTSI group.

OPC started working with Terberg tractors in 2023. Christian Morales Silva, Maintenance Supervisor "We purchased ten Terberg YT220 tractors, with Cummins engines and Allison transmissions, this being one of the most reliable configuration platforms. Terberg is a brand that currently meets the needs of our operation with plenty of efficiency. The equipment is highly reliable and adaptable to changing operating conditions. These Terberg terminal tractors offer a high functionality and performance, and the cabin looks very impressive. We will probably acquire more units in future." ▀



MEXICO

TMS in Mexico invests in 30 Terberg YT220 tractors

When it comes to the transportation industry, finding a reliable and efficient service provider can make all the difference in the success of logistics operations. In that sense, Transportes Monroy Schiavon (TMS) has earned a solid reputation as a leader in the sector, offering exceptional transportation solutions with a modern fleet, trained personnel, and an unwavering commitment of more than 44 years, becoming a valued business partner in achieving logistics excellence in the transportation market in Mexico.

When the need came to expand the yard services business, TMS trusted Maquinas Diesel SA de CV (MADISA) for the supply and support of 30 Terberg YT220 Terminal Tractors. MADISA has a solid record of more than 77 year as the leader in the equipment and services market in Mexico, with a strong focus on customer satisfaction. MADISA is the preferred distributor of construction and industrial machinery, and the official

distributor of Terberg in Mexico, offering a range of solutions with new, used, and rental equipment among its more than 80 branches throughout Mexico.

Morales Trejo, operator of terminal tractors for TMS, comments: "In terms of handling, it is ideal, they have good traction, a lot of strength when moving forward, they have good visibility on all sides, with a very good vision and few blind spots blind spots. And air conditioning is a factor that allows us to work better."

So far, MADISA has ordered 64 YT220s, for sale or rental, to serve the Mexican market. With that Terberg terminal tractors have gained recognition in Mexico for their outstanding performance and the advantages they offer to operators and companies in Mexico, such as equipment with superior power, focus on ergonomic design where operators spend long hours behind the wheel, and for reliability and durability, being built with high quality materials and rigorously tested, withstanding the most demanding conditions. ▀





Sustainability and the Royal Terberg Group: synergy and taking the long-term view

It is in the DNA of the Royal Terberg Group to ensure the continuity of the family business. This also involves taking responsibility for people and the environment. The foundations of our sustainability ambitions and strategy are defined in the RTG Mission and strategy 2023 - 2027 document.



Jeannette Paul,
Group Sustainability Manager, RTG

The 34 Terberg operating companies undertake many initiatives to make our products, services and business operations more sustainable. Examples include the growth of the e-drive product portfolio, the generation of solar energy and the reduction of waste with new stillages. Our companies inspire each other and benefit from each other's experience. In addition, sustainability expectations and requirements are increasing worldwide. These demands come from society, our customers, suppliers and partners, employees, governments and legislators, and - last but not least - the demands that Terberg places on itself. All this was the reason for the Royal Terberg Group to intensify group-wide collaboration on sustainability. This was kicked off in the spring of 2023. The senior management of all Terberg companies have communicated their priorities in the three

Sustainability domains: Environment, Social aspects and Governance.

These priorities are summarized in our sustainability ambitions:

- Enabling our customers to transport goods safely and sustainably
- People-centred and sustainable operation
- Responsible business conduct
- Social impact initiatives

Goals, strategic choices, KPIs and actions are being defined for each ambition.

Group-wide, our Greenhouse Gas footprint scope 1 (our own, direct emissions), 2 (emissions due to purchased energy) and 3 (other, indirect emissions) is assessed by a dedicated project team with members from all Terberg companies. They received training through webinars specially designed for

Terberg. Our internal Sustainability SharePoint site provides valuable information on, for example, sustainability legislation. Additionally, a Life Cycle Assessment project is being set up with all heads of engineering.

Terberg companies work tirelessly on local improvements such as process optimisation to increase energy efficiency, training to support the development of our people, robust anchoring of the Terberg Code of Conduct, social impact initiatives in local communities, ISO certification on sustainability-related topics like ISO 45001 and 14001, and sustainability or ESG rating.

An overview of all these efforts will be presented in the spring of 2024 in the Royal Terberg Group's first group-wide sustainability report. ▀



WEBSITE

Terberg Kinglifter - specialists in truck-mounted forklifts

Many distribution operations make deliveries to sites where there are no forklifts available for unloading the truck.

Terberg Kinglifter has a perfect solution for this: a forklift which mounts on the back of a truck. Once at the delivery site the forklift is lowered to the ground and can then unload the truck. Once finished, it only takes a few minutes to mount the Kinglifter on the truck again, ready to travel to the next drop-off point.

Versatile

Kinglifters are available in three models, from a compact unit for use in city centres to a heavy-duty one for unloading building materials at construction sites. They are available with one or three driven wheels and there is a 4-way version for carrying long materials such as timber. One of the key features is that Kinglifters are highly robust, to withstand the elements and vibration when carried on the back of a truck. For this reason they incorporate many stainless steel components and panels, to ensure reliable operation and a good appearance after many years hard work. The patented scissor mast makes it possible to unload a truck from one side, for improved safety and efficiency.

Electric

The electric version has proven to be very popular with operators as it is more powerful and quieter than the diesel units. It is available in a range of configurations to cover all applications. Optionally the unit can be recharged while mounted on the truck, so there is no need to recharge it at the depot.

Factory expansion

Kinglifter builds the units at its plant in the Netherlands. Due to continuing growth the company will relocate to much larger premises in the area next year. The new production line



is being designed with input from colleagues at Benschop.

Service

The forklifts are supplied and serviced by Terberg Kinglifter directly and by a dealer network and next day parts delivery throughout Europe. Director Bert Terberg "Customers only buy a second unit if the first one is supported by excellent service." ▀

"One of the key features is that Kinglifters are highly robust, to withstand the elements and vibration when carried on the back of a truck"



Terberg Control Systems: power management specialists

Based in IJsselstein, close to the Terberg Environmental sites and the Group headquarters, Terberg Control Systems is only a few kilometres away from the Terberg Special Vehicles plant at Benschop. Originally set up by another branch of the Terberg family, the company joined the Royal Terberg Group last year.

Robust hardware, smart software

Business Development Manager Tobias Noordhof told us more about their products and services "We build electrical panels, so power distribution, motor control centres and power management systems. Our specialty is developing control solutions for sites with less reliable public electricity supplies. Those help our customer switch between different sources of power to prevent supply interruptions. The sources include the grid, on-site generators,

wind turbines, photovoltaic panels and batteries. Another benefit is that these systems can also minimise the cost of electricity by switching between the supplies.


Customers worldwide

We are one of the few suppliers which can develop systems like that, built on 30 years experience. Those systems go to customers worldwide, in Asia, Africa, the Americas and Europe - we are thoroughly familiar with local requirements for electrical installations. We build everything in-house and also develop the software here in IJsselstein - that gives us complete control over the quality of our solutions. After testing the units are shipped to site and installed by a local contractor.

When necessary one of our own engineers visits the site to commission and test the system. But in most cases we log in remotely with our Efficient Management Tool (EMT) and monitor and control the on-site systems using

2-way communication. We can troubleshoot, update and modify the software remotely, from the Terberg Control Systems offices. To ensure security, our systems only go online when necessary.

Integrating EV charging with site power management

Of course we also deal with automotive charging systems. And that's relevant to Terberg Special Vehicles customers. Now that electric vehicles are used more widely sites have to balance charging EVs and feeding other electrical loads. Some customers also have on-site power generation, usually wind or PV and sometimes batteries. Our Energy Management Controller monitors all the electric loads and supplies and then balances them many times per second to ensure both uninterrupted supply and lowest costs. We have plenty of expertise with large power management systems so we can provide solutions for complete shipping terminals and distribution centres. We look forward to supporting TSV's customers with our smart power management solutions - a good example of synergy within RTG." 



Terberg Techniek: vehicle modification and sustainable solutions

Located not far from the Benschop plant, Terberg Techniek has long specialised in modifying heavy vehicles by installing additional axles, the X-track auxiliary front wheel drive system, container lifts and cranes. Techniek works closely with Volvo and Renault to modify trucks supplied through their dealer networks.

To meet the demand for container carriers, Techniek modifies used Terberg YT tractors by extending the chassis and installing a container lift system. The company also services, repairs and tests heavy vehicles at three sites in the Netherlands.

Renault payload upgrade

Techniek worked with Renault to develop the K 10x4 with a GVW of 74 t. The 8x4 chassis is fitted with an original Meritor tag axle to increase the payload from 38 t to 52 t. This axle has hydraulic suspension and steering and is lifted when the truck is empty. Terberg Techniek also undertakes similar upgrades of other makes and models of truck.

Battery-powered ePTO

In recent years Techniek has started



developing products to support the transition to zero emissions operations. These fit in perfectly with the environmental objectives of the Royal Terberg Group. The ePTO is a battery-powered hydraulic powerpack used to drive concrete mixer bodies and heavy truck-mounted cranes. This unit is particularly attractive for operations in built-up areas where the reduced noise level and elimination of exhaust emissions are clear advantages.


Hydrogen solutions

Many construction sites rely on noisy and dirty

diesel generator sets. Terberg Techniek has developed a portable H₂ power unit installed in a 10 foot container for easy transport. This unit incorporates fuel cells and a buffer battery and can be supplied with hydrogen from cylinders or a trailer.

Another development is the conversion of excavators to use hydrogen. The company recently completed work on an impressive Liebherr 916. The conversion involved fitting electric motors to drive the hydraulic pumps, powered by fuel cells and a buffer battery.

Net zero

Arjen Barendse, Account Manager Sustainable Solutions "The construction industry wants to move towards zero emissions, and their customers and the government are also urging them to do that. Terberg Techniek's new products, based on batteries and hydrogen fuel cells, give operators a number of options to reduce their carbon footprint. This equipment offers the same performance as traditional diesel-powered units with the added benefit of a lower noise level." 



VIDEO





Dennis Eagle eCollect: 100% electric eRCV

The only OEM-designed, fully integrated, 100% electric refuse collection vehicle

All companies in the Royal Terberg Group have developed electric vehicles to help their customers reduce their carbon footprint. Dennis Eagle is a Terberg Environmental company based in England. They build high-quality chassis and compaction bodies for refuse collection, a large majority fitted with bin lifts from Terberg Machines in the Netherlands. Many refuse collection vehicles (RCV) include a chassis, body and bin lift from different manufacturers. Dennis Eagle is unique in offering a fully integrated RCV so the customer has just one point of contact.

In many countries loaders can travel on the back of an RCV while it drives at low speed between collection points. However, this is not permitted under the strict British safety regulations. Therefore loaders frequently have to enter and leave the cab. To facilitate this and improve workplace conditions Dennis Eagle has developed the special low-entry walk-through Elite+ cab.

Fully electric RCV

The eCollect is a further development of this design, available in 6x2 rear-steer and 4x2 chassis configurations with full electric drive. The lack of exhaust gasses and reduced noise level make this vehicle the perfect choice for urban operations. The electric drive is so powerful that collection rounds can be completed in less time than with a comparable diesel vehicle. The vehicle can operate a full

shift, collecting 20 tonnes of refuse, on a single charge.

The eCollect is factory-fitted with a remote telematics system. This provides operators with outstanding operational flexibility and enables them to manage the eRCVs with exceptional efficiency.

Dennis Eagle eCollect vehicles are now operating in many local authorities throughout the UK, contributing to lower carbon emissions and an improved urban environment. ▶



VIDEO



ROYAL TERBERG GROUP B.V.
(THE NETHERLANDS)

SPECIAL VEHICLES

TERBERG BENSCHOP B.V.
(THE NETHERLANDS)

TERBERG TRACTORS NEDERLAND B.V.
(THE NETHERLANDS)

TERBERG D.T.S. (UK) LTD
(UNITED KINGDOM)

TERBERG SPEZIALFAHRZEUGE GMBH
(GERMANY)

TERBERG TRACTORS BELGIUM BV
(BELGIUM)

TERBERG TAYLOR AMERICAS GROUP LLC
(UNITED STATES)

TERBERG TAYLOR AMERICAS MANUFACTURING LLC
(UNITED STATES)

TERBERG TAYLOR AMERICAS LLC
(UNITED STATES)

TERBERG TAYLOR AMERICAS RENTAL & LEASE, LLC
(UNITED STATES)

TERBERG MIDDLE EAST FZE
(DUBAI, UNITED ARAB EMIRATES)

MANUPORT S.R.L.
(ITALY)

TERBERG MPM IRELAND LTD
(IRELAND AND NORTHERN IRELAND)

TERBERG TRACTORES IBERIA SL
(SPAIN AND PORTUGAL)

TERBERG TRACTORS MALAYSIA, SDN.BHD.
(MALAYSIA)

TERBERG MANUFACTURING & ASSEMBLY SDN.BHD.
(MALAYSIA)

TERBERG SERVICES SOLUTIONS SDN.BHD.
(MALAYSIA)

HITECH AUTO PTE.LTD.
(SINGAPORE)

ENVIRONMENTAL EQUIPMENT

TERBERG MACHINES B.V.
(THE NETHERLANDS)

TERBERG MATEC NEDERLAND B.V.
(THE NETHERLANDS)

TERBERG MATEC BELGIUM BV
(BELGIUM)

TERBERG MATEC SAS
(FRANCE)

TERBERG MATEC POLSKA SP.Z O.O.
(POLAND)

TERBERG ROSROCA VEHICLE MANUFACTURING LLC.
(DUBAI, UNITED ARAB EMIRATES)

DENNIS EAGLE LTD
(UNITED KINGDOM)

TERBERG MATEC UK
(UNITED KINGDOM)

DENNIS EAGLE INC
(UNITED STATES)

TERBERG HS GMBH
(GERMANY)

ROS ROCA S.A.U.
(SPAIN)

ENVIRORENT XXI, S.L.U.
(SPAIN)

RESITUL LDA.
(PORTUGAL)

TERBERG CONTROL SYSTEMS B.V.
(THE NETHERLANDS)

TERBERG AUTOMOTIVE B.V.
(THE NETHERLANDS)

TRUCK MODIFICATION

TERBERG TECHNIEK B.V.
(THE NETHERLANDS)

SPECIAL VEHICLES

This division includes Terberg Benschop, its main factory in the Netherlands, and its subsidiaries abroad.

ENVIRONMENTAL EQUIPMENT

This division manufactures Dennis Eagle truck chassis, vehicle bodies for waste collection, a full range of binlift systems and waste loading systems for the recycling and waste disposal industry.

TRUCK MOUNTED FORKLIFTS

TERBERG KINGLIFTER B.V.
(THE NETHERLANDS)

TERBERG KINGLIFTER GMBH
(GERMANY)

TRUCK MODIFICATION

This division modifies standard trucks into special trucks by changing the axle configuration and adapting the steering and suspension systems. The division's workshops also undertake truck repairs and statutory vehicle inspections.

TRUCK MOUNTED FORKLIFTS

This division produces truck mounted forklifts.

CORE VALUES

- Entrepreneurial spirit
- Customer focus
- Innovation
- Quality
- Flexibility
- Integrity
- Sustainability

MAIN FACTS

- Founded in 1869
- Family-owned
- Employees: appr. 3,050
- Companies in 14 countries
- Operating companies: 34
- Export worldwide: > 100 countries





WHERE SPECIAL COMES AS STANDARD

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