

TERBERG MAGAZINE



Where special
comes as standard





Invest to support growth

The market is changing rapidly. In the past year many of our customers worldwide have made significant investments in extending and refreshing their fleets of Terberg vehicles. I would like to thank you all for your confidence in our products and services, on behalf of everyone at Terberg. Our vehicles are now operating in over 120 countries worldwide. We even manage to provide support on small islands in remote areas. Our strength lies in our consistent focus on special vehicles for ports and logistics operations. That's what we do! This clearly defined focus enables us to work together with you to develop, deliver and support customised solutions.

We are also working hard on developing new drivelines to further reduce or eliminate the emissions of our vehicles. Additionally we are developing a range of concepts so Terberg tractors can drive automatically, autonomously or under remote control. Some of these automation projects are covered in this magazine and in recent months we have started several projects with customers which depend on mutual trust and close cooperation.

As a family business Terberg takes the long view. We are not driven by share prices and short-term gains, instead our business focusses on long-term customer satisfaction and long-lasting relationships with our customers and distributors. To support our long-term growth we are currently making significant investments to extend our production operations in the Netherlands and Malaysia.

We are also investing in the expansion of Terberg Tractors Americas. More and more container terminals and logistics businesses in Canada, the United States, and Central and South America are adopting Terberg vehicles, which is obviously great news. In response to this demand we have designed vehicles tailored to the demands of the markets in the Americas.

You can read about some of these developments in this issue of Terberg Magazine and we will also be covering them on our website over the next few months. All in all, we are very positive about the future. Of course, we are always available to discuss how we can support your logistics operations. We hope you enjoy reading our magazine and find the contents interesting. Hopefully it will give you some new ideas and food for thought. We would like to hear what you think about it.

Rob van Hove / Director

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Terberg Benschop and international subsidiaries

Terberg's main plant is at Benschop, the Netherlands, where our tractors are designed and built to customer specifications. The division has seven international subsidiaries to bring us closer to our customers. Some of these subsidiaries also supply and support other makes of equipment.

Terberg Spezialfahrzeuge

GERMANY



Arno Ortlieb

This subsidiary supplies our tractors and Kinglifter truck-mounted fork lift trucks 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.

terbergspezialfahrzeuge.de

Terberg Tractors Malaysia

MALAYSIA



Jonathan Teo

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.

terbergspecialvehicles.com

Terberg DTS

UNITED KINGDOM



Alisdair Couper

In addition to the full range of Terberg tractors, Terberg DTS also distributes Kinglifter truck-mounted fork lift trucks, terminal and industrial trailers, special

airport vehicles and Zagro rail shunters in the UK and Ireland. The company has a fully-equipped servicing workshop and a large rental fleet.

terbergdts.co.uk

Terberg Tractors Belgium

BELGIUM



Pieter Sanczuk

This subsidiary supplies our tractors and Kinglifter truck-mounted forklift trucks 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 forklift trucks and other equipment.

terbergtractorsbelgium.be

Terberg Middle East

DUBAI



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.

terbergmiddleeast.ae

Terberg Tractors Americas

USA



Ron van Arkel

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.

terbergtractorsamericas.com

Manuport

ITALY



Fabio Fiorenzuola



Paolo Fiorenzuola

Our latest subsidiary supplies Terberg tractors, other port equipment and heavy-duty fork lift trucks and services these vehicles.

manuport.it



Terberg receives a Royal Warrant



On Monday 13 May the Terberg Group B.V. received a royal warrant from Mr. J.H. Oosters, King's Commissioner for the Province of Utrecht. That day, 150 years ago, was when our great-grandfather purchased the village forge and its house and shed in Benschop, for 1,800 guilders. He could never guess that the forge would eventually develop into a large international family business.

We are proud and honoured to have received this royal warrant. It is associated with quality and trust - it is the crown on the work of the family and employees over the years. We now face the challenge of proving every day that we



From left to right:
Bert Terberg,
Mrs. P.A.C. Terberg,
George Terberg,
Commissioner of the
King Mr.J.H. Oosters
and Godfried Terberg.

deserve this trust, and that we are a reliable partner for our customers.

The Terberg family, whose fifth generation has now joined the business, faces the future with confidence, despite the issues the world is

facing. Together we look forward to making 2019 another great year.

Royal Terberg Group B.V.
George Terberg
Chairman of the Board of Management

AutoTUG™ roadmap to autonomous operation

From automated driving in closed zones to mixed traffic operation and remote operation, AutoTUG™ was designed from the outset to be flexible in terms of navigation and collision avoidance systems, communication systems and autonomous vehicle technology.

AUTOTUG™ READY FOR STAGE 2 AUTOMATED OPERATION

The first AUTOTUG™ deliveries for stage 2 automated operation in 'closed zones' are expected the first half of 2020. All traffic in the zone is under control of a central logistics system which prevents collisions. Each AUTOTUG™ is fitted with a gyroscope and multiple encoders on the wheels and the steering system to update the position when driving between transponders. In container terminals transponder technology is more reliable than GPS, because the satellite signals are reflected by the container stacks.

AUTOTUG™ DESIGNED FOR FUTURE AUTONOMOUS OPERATION

The AutoTUG™ is designed for future upgrade to autonomous operation. Terberg is partnering suppliers like ZF to integrate an autonomous system allowing AutoTUG™ to share traffic lanes with conventional trucks. This includes cameras, radars and laser-based sensors for navigation, collision avoidance and pedestrian detection. A central computer on the vehicle processes all sensor information in real time, takes decisions, and verifies the route. By introducing more intelligence to the vehicle, it can resolve issues onboard, without the complexity of all decisions being made in the Equipment Control System.





Terberg is working with driveline, chassis and safety technology specialist ZF, to develop an autonomous driving system for AutoTUG that will allow it to operate in mixed traffic terminals.



AUTOTUG™ AND REMOTE OPERATION

Remote operation can supplement all types of yard automation. Therefore Terberg is partnering with an expert in the field, Phantom Auto, to implement this technology in the AutoTUG™. The technology offers advantages, such as controlling multiple vehicles at several sites and using the technology in combination with autonomous functions. Issues that cannot be handled by the automation systems can be resolved remotely, without on-site intervention. ▀

AutoTUG™ CONCEPT

Terberg developed the automation architecture based on three function layers. The first layer is a "drive by wire" interface that controls the operational systems of the vehicle (driveline, braking system, steering system, fifth wheel, lift table, lights, etc.). The second layer is the "electric driver", that uses sensing and collision avoidance techniques. The third layer is the system from which the AutoTUG gets its instructions, the central logistics system that manages a fleet of AutoTUGs. The systems at each level can easily be upgraded with new technology or other applications as required.

FUNCTION LAYERS



Operational Driving Systems



Sensing and Collision Avoidance Techniques



Manages a fleet of AutoTUG's

Terberg partners with Phantom Auto for remote operation

Imagine: you get to the office in the morning, greet your colleagues, grab a cup of coffee or tea, get into the virtual cab of your tractor, and start driving. Is there a business case for it and what would you need to put it into practice?

Tristan Smis, Manager Tractor Automation at Terberg told us more about recent developments: "At the Benschop plant we have been working on automated and autonomous tractors for quite some years now. This means we are now prepared for the future and we can meet the growing demand for various forms of automation. Our customers are not only looking to save costs, quite often they simply cannot find the right tractor drivers for their operations. Automatic Guided Vehicles (AGVs) have been available for around 30 years, mostly for container handling in controlled environments. However, Terberg tractors are often used in complex environments where mixed traffic and difficult manoeuvres make automation more difficult. In these settings remote operation can be an attractive solution.



To add this feature to the Terberg AutoTUG™ we are now working with Phantom Auto, who provide the teleoperation kit and remote operator station. The kit includes a set of cameras and 4G modems for the data links. These links enable the operator at the remote station to see what is happening and to send instructions to the tractor. As long as the data link is fast enough the distance between the tractor and the remote operator station is

unlimited. In one demonstration project the driver and the tractor were thousands of kilometres apart. If the data link is interrupted or slows down the AutoTUG will automatically brake and come to a halt."

Remote operation provides a number of options. It gives the driver a completely different work environment, which may be attractive to a new generation of drivers.



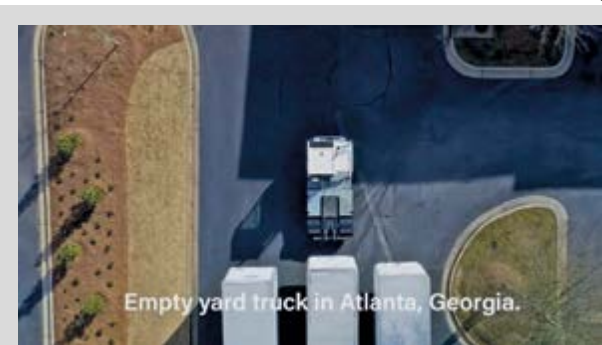
It also makes it possible for one driver to handle several vehicles. This is attractive for customers with multiple sites with intermittent operations. In future it will be possible to combine autonomous operation, for straightforward routes, and remote operation, for more difficult manoeuvres.

Some customers are currently hesitant to use autonomous or automated vehicles because they worry that when vehicles get too close to each other they might both stop and refuse to move (deadlock). Remote operation makes it possible for an operator to resolve this deadlock without physically having to go to the tractors. As a result, automation becomes more attractive.

Terberg tractors are often used in complex environments where mixed traffic and difficult manoeuvres make automation more difficult. In these settings remote operation can be an attractive solution.

Some Terberg vehicles have to drive on public roads. Under current regulations this means there has to be a driver in the vehicle - exactly what autonomous operation aims to avoid. Several countries have introduced legislation to enable experiments on public roads, as long as the vehicles are remotely monitored. The new teleoperation kit provides that function.

Finally, remote operation is a good solution when vehicles are used in environments which are unpleasant or hazardous to drivers. ▀



Video Remote Operation

AUTOMATED VEHICLE:
only follows instructions (and stops automatically if there is an obstacle).

AUTONOMOUS VEHICLE:
can take decisions about the best way to implement instructions (and stops automatically if there is an obstacle).

Distributor focus: Sigma Trukit, Finland

FINLAND

Sigma Trukit is Terberg distributor for Finland since 2004. The company also distributes and supports other leading manufacturers of materials handling equipment, such as Liftec (cassette systems), Novatech (trailers), and Yale and Hubtex (lift trucks). More recently, Sigma Trukit added Terberg Kinglifter to their range. The company has also developed Sigma Safe, a proximity warning system for lift trucks. Sigma Trukit has 14 branches throughout Finland with 40 maintenance technicians who service and repair Terberg tractors and other equipment.

Antti Makinen joined the company about a year ago and is now Product Manager for Terberg, Liftec and Novatech. Antti: "I have been working in the heavy machinery industry for about 15 years now, mainly in sales and

marketing. Before joining Sigma I worked for Robit, a Finnish manufacturer of rock drilling bits. I now deal with Terberg tractors, NT Liftec translifters and Novatech trailers, goosenecks, etc. These products are used both in industry and for port operations.

I think the concrete products industry is a promising market given their need to handle heavy loads over increasing distances. Terberg tractors can help them optimise their logistics and operations. I can also see more opportunities in heavy industry. I am sure that automation and electric vehicles will become important in Finland within a few years. Of course, our cold winters and occasional one-metre snowfalls will be a challenge, but we can solve that.

Douglas Wångdahl retires

SWEDEN

Terberg products is distributed in Scandinavia by N.C. Nielsen who are based in Denmark and operates as Terberg Scandinavia. For the past 13 years, Douglas Wångdahl has been responsible for Terberg sales in Sweden. He recently retired and noted: "I've had an absolutely fantastic time. That's really because I had a product that is so good and is so well received. Not least thanks to the amazing support I've received from N.C. Nielsen's aftermarket resources. I feel that all these positive customers are my friends."

The Swedish market is now handled by Per Löthner (South Sweden), Henrik Lyberg (North Sweden) and Claus Lilleholt, Product Manager, Terberg Scandinavia - Sweden. ▀



Douglas Wångdahl



On the left, Antti Mäkinen, Sigma Trukit and on the right Petri Viinikkala, Euroports Rauma

When visiting Benschop with our customers they are always impressed by Terbergs' manufacturing facilities. Terberg has always been easy to work with and we get excellent and prompt support from our Sales Engineer, Bas Sengers." ▀

Novengi

MAURITIUS AND SURROUNDING ISLANDS
NEW DISTRIBUTOR

Novengi has in-depth experience in providing equipment and services for various industries, such as power generation, renewable energy, sugar industry and material handling. The company is committed to improve operational, sustainable and economic performance of customers by providing best-in-class products, hands-on services and solutions.

www.novengi.mu ▀



From left to right:
Daniel Gambba-Jones, Andrew Partridge (Terberg Middle-East), Yannick Applasamy, Guy Michel Thelemaque (Novengi)



SPIA Maroc

MAROC
NEW DISTRIBUTOR

Since the start of the company 5 years ago SPIA Maroc has developed expertise in its field by collaborating with several national and international partners, representing major brands such as Goodsense, Tec Container and Pfeifer Drako. Over the years SPIA Maroc has become an expert in maintenance and spare parts of port equipment.

More information: www.spia.ma



Linder

NORTH AND SOUTH CAROLINA
NEW DISTRIBUTOR

Linder offers a wide variety of new, used and rental equipment across eighteen branch locations with an extensive OEM parts inventory, remanufactured exchange components, aftermarket parts for all makes of equipment, used parts, complete undercarriage rebuilding equipment, and a professional staff of Customer Support Managers.

More information: www.linder.com

Equiport

BRASIL
NEW DISTRIBUTOR

Equiport has been selling Terberg equipment since 2009 and was appointed as official distributor earlier this year (2019). The company has been very successful in selling reach stackers in this market and is hoping to build on this experience when further developing the tractor market. More information: www.equiport.com.br

Distributor focus: Pink Armour

PHILIPPINES

Pink Armour was set up in 2005 by Ms. Christine Salonga and supplies a range of products for the heavy industry. In 2009 Terberg Tractors Malaysia appointed Pink Armour as the Terberg distributor for the Philippines, based on their familiarity with the maritime transport and port operations sector in this country. The company focusses on quality and strong partnerships.

Pink Armour has been very successful in developing the market in the Philippines. One of the company's key customers is Asian Terminals Incorporated (ATI), part of the DP World network, whose container terminal in Manila is a major international trade gateway. The terminal has two jetties to accommodate vessels with a draught of up to 12 metres, served by nine ship-to-shore cranes and other equipment. Over the years, ATI have purchased well over one hundred Terberg tractors.

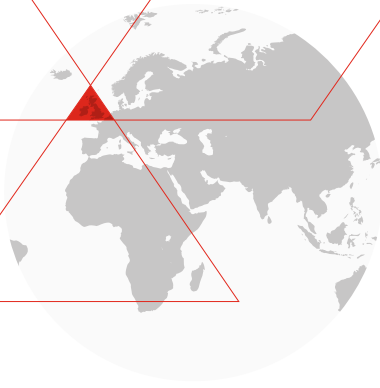


Victor Tovar, Industrial Division
Vice-president MADISA

Madisa

MEXICO
NEW DISTRIBUTOR

Madisa has 73 years of experience in the Mexican market providing equipment, services and parts for many industries, such as material handling, construction and mining, power systems, marine, oil & gas, retail and agricultural. With more than 80 branches in Mexico, Madisa supports customers' operations and aftermarket needs. www.madisa.com



The history of Terberg DTS



On 20th January 2020 Terberg DTS will have been in business for 20 years! Back in 2000 we joined the Terberg Group, following two successful years of development and growth as Distribution Tractor Services (DTS), under the ownership of Duncan Stewart and Alisdair Couper. The company became Terberg DTS with Alisdair as managing director and Duncan moving on to pastures new.

The first unit ever sold by Distribution Tractor Services was an orange YT180 LPG tractor destined for Birmingham. This unit, having passed through numerous hands, has now returned to the ownership of Terberg DTS as a mark of where it all began.

Terberg DTS currently operate 24 hours a day, 7 days a week, offering customers a rapid service. Working hard, we have managed to achieve an average response time of less than 6 hours throughout the UK. We are committed to our customers and therefore feel it is important that they know they have our full support at all times, at any location. It is a source of pride that

Vehicles delivered by Terberg DTS are now involved in the supply of over 84% of all consumer goods delivered throughout the United Kingdom and Ireland.

our vehicles operate within all of the major supermarkets, ports and parcel delivery companies across the country. This is the result of the hard work and dedication of our past and present colleagues. Our rental business shows ongoing growth across various sectors with assets supplied and supported globally.

In 2006 Terberg DTS evolved further with the expansion into the supply of aviation equipment for both civilian applications and the UK

Ministry of Defence (MOD). As a result of this decision the MOD now account for almost 23% of our business activities and this continues to grow. 2014 saw the introduction of Fire and Rescue products with a further partnership developed with Oshkosh in the USA. We now have a designated Fire and Rescue centre in Gloucester to manage this area of the business.

Our ethos is to innovate, evolve and develop, which sees Terberg DTS continuing to have great success winning major contracts with key accounts. We have the most experienced, knowledgeable and dedicated employees and we are proud of the hard work of all of our teams across the last 20 years and look forward to the next 20! ▀





DISTRIBUTION APPLICATIONS



Distribution specialist Culina Group expands fleet

The Culina Group is the market-leading chilled and ambient food and drink warehousing, distribution and transport specialist in the UK and Ireland. Both Culina and its Great Bear subsidiary have been using Terberg tractors for

a number of years. They are currently operating a fleet of YT222 yard tractors which they selected because of the long term positive performance, great driver feedback and high residual value. Mark Matkin (Culina Group),

Colin Keegan (Great Bear) and Andrew Armitage (Terberg DTS UK) recently visited the Terberg Special Vehicles production plant at Benschop to sign off on the pre-delivery inspection of a new batch of tractors. ▀

Heavy duty RT403 for Harsco

The history of Harsco goes back to 1853 when it started producing rail cars in Harrisburg, USA. Over the years the company expanded and diversified into areas such as metals and minerals, industrial products and rail. Its Environmental division operates more than 130 sites in over 30 countries, providing material processing and environmental services to the steel and metals industries.

Harsco has been using Terberg vehicles at several sites in the UK and elsewhere for a number of years. The UK operation recently took delivery of their first RT403. The specifications of this heavy duty industrial tractor are tailored to the demanding operating environment at a steelworks in South Yorkshire. The custom upgrades include a roof-mounted air conditioning system and a specially designed

and fabricated handrail to ensure good health and safety practices for the operator. ▀




INDUSTRIAL APPLICATIONS



Robert Burns invests in DT183 to support health and safety

Robert Burns set the company which bears his name up in 1985, starting with one truck. Over time the fleet expanded steadily. The company now takes pride in having the most modern fleet in Scotland carrying both fresh and frozen products. It also has a blast freezer plant and a large frozen warehouse.


Mr. Burns decided to invest in a DT183 Distribution Tractor to support the company's health and safety strategy. The low-entry cab and high visibility support the yard operators in their daily work at the state-of-the-art facilities in Broxburn near Edinburgh. 



Yodel conducts a fleet upgrade



Yodel is one of the UK's largest courier services, delivering millions of parcels each week. The company is a long-standing rental customer of Terberg DTS UK and is conducting a fleet upgrade across their primary distribution hubs. Many new YT182 and YT222 tractors have already been delivered to hubs across the network and more are scheduled for delivery later this year.

Terberg DTS provides a comprehensive service and maintenance package at each site, enabling Yodel to keep their parcels moving 24/7. 

The history of the Container Carrier

We came up with the idea for the Terberg Container Carrier over 25 years ago. The design was inspired by a meeting with a waste recycling business in Amsterdam. This company was handling 20 to 25 tonne open top containers with conventional road trucks. As these trucks are designed for public highways they were limited to an axle load of around 10 tonnes. The combined weight of the truck, lift system, container and load is easily 40 tonnes. Hence, the trucks had four axles. These highway trucks gave drivers only a limited view of the area around their vehicles, often leading to collision damage when operating in crowded yards and were relatively expensive to operate.

However, our two-axle terminal tractors are not restricted by highway regulations and are optimised for low speed operations. This means they can have a rear axle with a capacity of 38 tonnes (at 20 km/h) and they also benefit from a very strong chassis, a driver's cab with a good view in all directions and an automatic transmission. This results in the following advantages: the good view greatly reduces the risk of damage, two axles are cheaper to maintain than four, there are no tandem tyres which suffer from friction, and wear of the suspension system is greatly reduced due to lower tyre friction.

This made our Yard Tractor (YT) design a perfect platform for the development of a dedicated Container Carrier (CC). The main differences are that the CC does not have a fifth wheel, has a longer and higher chassis, a PTO for the container lift system and, in some cases, a stronger front axle. The main challenges in the development of the CC were to determine the optimum wheelbase and rear overhang of the chassis. If the wheelbase is too short the front axle will lift off the ground when picking up a container. If it is too long the front axle will be overloaded. However, we now have over 25 years of experience designing CCs for demanding customers so we can get the design details right every time. The resulting vehicles are very robust and agile, and the perfect tool for handling heavy containers in crowded yards. Of course, four-axle vehicles are still needed when containers are transported on the public highway. ➤



5 ADVANTAGES OF CONTAINER CARRIERS (compared to highway trucks)

- 1 Rear axle with a capacity of 38 tonnes (at 20 km/h)
- 2 Greatly reduced risk of damage due to the excellent view in all directions
- 3 Two axles are cheaper to maintain than four
- 4 There are no tandem tyres which suffer from friction
- 5 Wear of the suspension system is greatly reduced due to lower tyre friction

Comet Group

BELGIUM

Comet Group operates several ferrous metal recycling plants and has a number of sites in Belgium and France. The sites in Châtelet and Obourg are equipped with a range of metals processing equipment, including a 7000 hp shredder, the most powerful in Europe. The company also has a dedicated transshipment facility in the port of Ghent which can receive seagoing ships up to 50,000 tonnes. Comet Group has a YT222CC Container Carrier to handle heavy scrap bins in the busy yard. ▀



Renewi

THE NETHERLANDS

This internationally leading waste-to-product business operates more than 200 sites in nine countries.

Renewi recently invested in YT222CC Container Carriers for two of their sites in the Netherlands. Corne de Boer of the Zoeterwoude site commented: "We use the Terberg unit to move large containers and load and unload vehicles. Basically, for all operations on the site and inside the recycling buildings. The cab is comfortable, easy to use and it has air conditioning." Edwin Kolk, General Area Manager, based at one of Renewi's sites in Rotterdam, added: "It replaces an older Terberg unit and it is kept very busy during our two-shift operations. So it has to be robust, and Terberg has proven the quality of their products. The driver has excellent visibility, that contributes to safety on site. ▀

"We configured the vehicle in consultation with Terberg, who really understand our business."

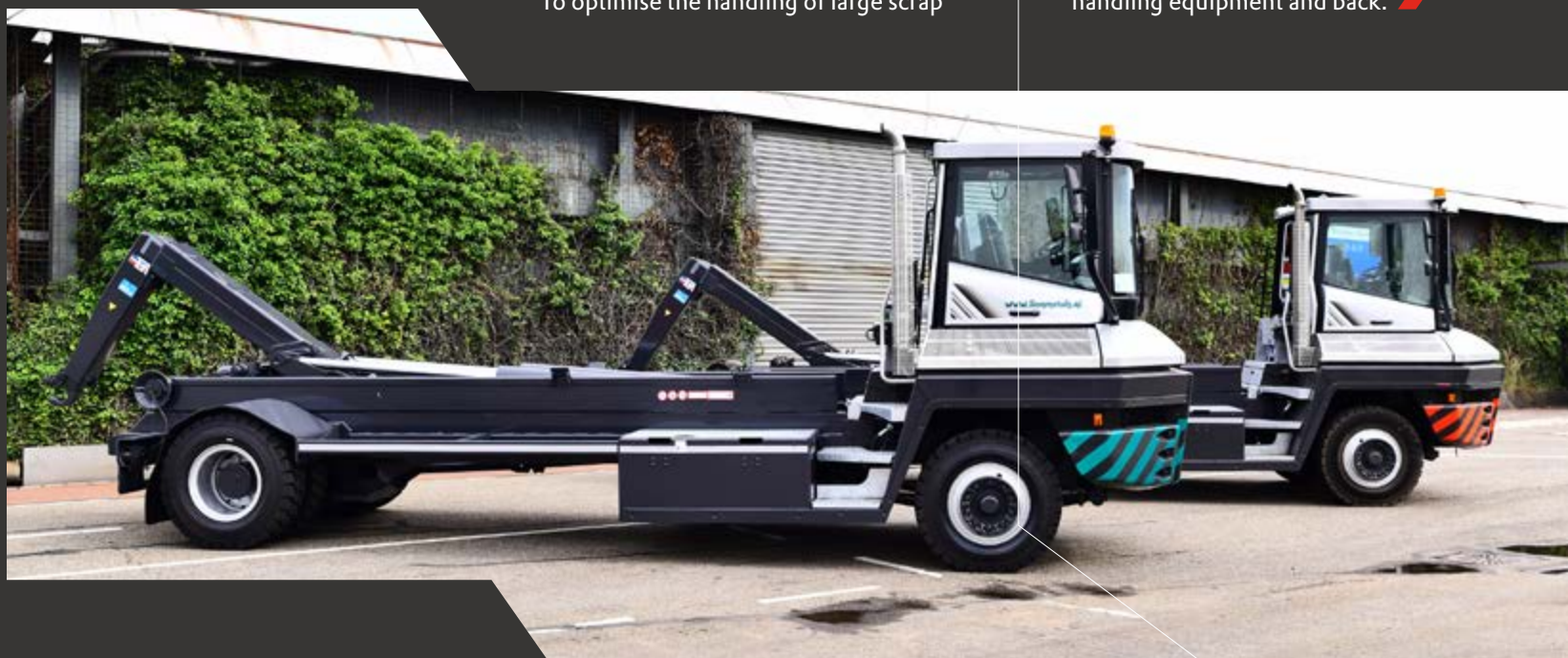


Lion Metals

THE NETHERLANDS

Lion Metals was set up in 2008 and trades in scrap metal and used cables and lead-acid batteries. Their scrap handling equipment includes a scrap shear, a baler and a mobile shear which can be deployed at customers' sites. To optimise the handling of large scrap

containers at its yard, Lion Metals has been working with Terberg Container Carriers from the start. They recently purchased a second TT223CC, fitted with a hook lift. This is used to transport containers from yard to the scrap handling equipment and back. ▀



Sortiva

THE NETHERLANDS

Sortiva processes wastes from households, businesses and public authorities for reuse.

Sortiva has previously purchased Terberg Container Carriers, both YT and RT models. Some time ago an RT283CC 6x6 replaced a large dumper truck at its Alkmaar site. Its advantages include a lower fuel consumption and excellent handling on the rough terrain. Their most recent investment is a YT222CC 4x2 Container Carrier, also for the Alkmaar site. It carries loads such as domestic refuse, construction waste and rubble, metals, paper, etc. ▀





Rental operations in Germany

GERMANY

Terberg Spezialfahrzeuge (TSF), our German subsidiary, has a large rental fleet. This includes standard tractors, body carriers, hook lift vehicles, road/rail tractors and truck mounted forklift trucks. Many customers prefer to rent rather than purchase equipment as this enables them to respond more quickly to changes in the demand for their products and services. The TSF rental fleet includes the latest vehicles, meeting all emissions requirements, and fitted with a range of convenient options enabling drivers to operate even more effectively and safely.

*The rental fleet
in Germany includes
more than 200 vehicles*

They are fully equipped and can be provided with the official approval and homologation for use on public roads. All vehicles can be rented for periods from one day to several years. Renting is also an attractive option for customers who want to test a vehicle in their operations. Some users have contracts with their customers which result in significant changes in volume. For them, renting is more flexible as it enables them to expand or reduce their fleet as required. Other customers choose to rent instead of purchase because it reduces their capital investment. Furthermore, customers have comprehensive overview of all costs from the start. This is particularly relevant for temporary projects.

TSF offers a full range of services, such as maintenance and repairs, arranging insurance and permits, and tyre management - all backed by 24/7 support.



Terberg's focus on tractors and truck mounted forklift trucks means our people are thoroughly familiar with the customers' operations and processes and can advise them on the most suitable vehicles. ▀

Transporting Components for Liebherr Cranes

GERMANY

Liebherr is one of the leading manufacturers of construction machinery, with a total workforce of 46,000. The 3,500 employees of their site in Ehingen produce around 1,800 mobile cranes

and crawler cranes every year. These range from all-terrain mobile cranes with a capacity of 35 tonnes to heavy-duty 1,200 tonne cranes. Their lattice boom cranes go up to 3,000 tonnes.



To transport the large and heavy loads at this plant Liebherr has three RT283 tractors. The four-wheel driveline, XZM tyres and powerful engines are easily able to cope with the significant gradients of the site. They are used to handle conventional rolling pallets and also Seacom SH36 XT goosenecks and special roll trailers for transporting components for Liebherr's largest mobile cranes. ▀

BC182 at Société Électrique de l'Our

LUXEMBOURG



The Société Électrique de l'Our (SEO) operates the Vianden pumped-storage hydroelectricity station as well as run-of-river power plants and windfarms. The Vianden plant uses excess electricity available at times of low demand to pump water up to the upper reservoir. At times of peak demand the water flows through the turbines back to the lower reservoir, generating electricity. Vianden helps to ensure adequate supply within the European interconnected grid and has a capacity of 1,300 MW.

SEO uses a BC182 with two special heavy-duty swap bodies from Seacom for transport operations at Vianden. The open swap bodies and small turning circle of the vehicle make it easy to place the heavy components in the right position. ▀






YT222 at the center of Anton Häfliger anniversary event

SWITZERLAND

In 2019 leading Swiss transport company Anton Häfliger AG celebrated its 60th anniversary. Anton Häfliger and Alice Häfliger-Galliker started the business in 1959 with one truck only. During the week this truck was fitted with a flat bed for carrying goods and on Saturdays with a coach body for holiday travellers. Their son, Anton Häfliger Junior, took over the reins in 1986 and the company now specialises in temperature-controlled transport and has a fleet of 50 vehicles.

During its anniversary celebrations the company put its new YT222 at the centre of a key event: the Vogel Lisi treasure hunt. This refers to a bird in a well-known song. The tractor, taking the place of Vogel Lisi, was hidden in the mountains near Adelboden and the Häfliger team had to search for it. This was definitely a unique way to introduce one of our tractors to the workforce.

Terberg congratulates Anton Häfliger AG on their anniversary and is looking forward to working with them for many years to come. 





Celebrating ten years of Terberg in Belgium

BELGIUM

In 2009 the distributor in Belgium decided to focus on other equipment. As a result product specialists Pieter Sanczuk, his son Lorenz, and Jos De Cock decided to join Terberg Benschop to serve the Belgian market as Terberg Tractors Belgium (TTB) and Service Manager Dominik Thielman and three mechanics joined the new company.

TTB sells and rents Terberg tractors and also supplies Seacom trailers and Terberg Kinglifter truck mounted forklift trucks. The company's offices and workshop are based at Oostakker, close to the port of Ghent and the surrounding industrial area.

Pieter explained: "Although we are a relatively young company we are the clear market leader in Belgium. As in other countries, our customers appreciate the Terberg quality and the support we offer. Obviously we do not take that for granted, but always work hard to make sure the customer comes first. The "family feeling" within Terberg helps with that. Many of our customers are based in Belgian ports and we also have a strong position among industrial customers and distribution centres.

Rentals are quite important here, to support customers waiting for delivery of a new Terberg tractor, as temporary replacements, and to cover peak periods. Obviously those tractors are covered by a full service package. Our rental fleet mostly consists of YTs."

MAINTENANCE AND SUPPORT

Service Manager Dominik Thielman: "Of course we support our tractors with full servicing and repairs. At the moment we do around 80% of the work at our customers' sites and the rest here in the workshop. If repair takes longer than 24 hours we send a replacement tractor.

Currently we have two mechanics based at our workshop and ten in the field, who live throughout the country. Those near Antwerp, Ghent and Zeebrugge mostly support our port customers while colleagues in the rest of the country work for sectors such as distribution, steel, concrete and manufacturing. Every night couriers deliver the parts from the warehouse at Benschop to the mobile workshops of the mechanics, so in the morning they can go straight to a customer's site. Any heavy parts are delivered to our workshop or the customer's site. When working on site our mechanics always try and have a chat with the driver as that can give us a lot of valuable information.

The Terberg Remote Monitoring System is very useful as these telematics units allow us to monitor tractors at our offices. That means we can contact customers proactively to schedule maintenance and minimise the disruption to their operations."

KINGLIFTER

Lorenz: "We have been supplying Kinglifter truck mounted forklift trucks for two years now and the market for them is gradually developing. In our view these units offer a faster response and have a higher build quality than the competition, at a better price point. We are also developing a network of sales and service dealers." 



Coca-Cola relies on Terberg tractors

BELGIUM AND LUXEMBOURG

Coca-Cola has several operating companies in Belgium and Luxembourg. These include three bottling plants, six distribution centres, a key West European hub, and the company's second largest R&D centre. Between them they have almost 2500 employees, delivering some 10.5 million alcohol-free drinks every day.

Their sites at Antwerp, Gent and Chaudfontaine use YT222 tractors to handle heavy trailers. The company has been using Terberg equipment for almost two decades. ▀



DISTRIBUTION APPLICATIONS

Elrotrans tautliners with Kinglifters

BELGIUM




This family-owned logistics, transport and storage business is located between Ghent and Brussels and has a fleet of articulated lorries. Their 10,000 m² warehouse offers customers a full storage and picking service. Elrotrans operates eight tautliners with Terberg Kinglifter truck mounted forklift trucks. These enable the company to unload the trucks quickly and efficiently and deliver the cargo right to the customer's building site or warehouse. ▀

TT223 equipped for dusty yard

BELGIUM

The hundred employees of Kerkstoel 2000+ manufacture a wide range of precast concrete floor and wall panels. The flexible production process enables this company to produce each unit to customer specifications and to include apertures, cast-in components and insulation. These precast products help their customers to optimise efficiency and minimise waste on the construction site. The slabs are relatively thin and, once installed, they are covered or filled with concrete placed on site.

Kerkstoel 2000+ has a TT223 tractor to haul dedicated panel trailers between the production plant and the storage yard. The tractor is fitted with an air intake at the top of the cab and a special dust filter because it operates in a dusty environment. The Ergoturn swivelling seat means the driver can drive the combination in reverse across longer distances in comfort and safety. 




Joris Van Dijck adds tractors and Kinglifters to range

BELGIUM




The company has over 60 years of experience in sales, rental and servicing of forklift trucks, reach trucks, stackers, cherry pickers, scissor lifts and more. They recently added YT222 terminal tractors and Kinglifter truck mounted forklift trucks to their range.

The company now services Kinglifter units operating in De Kempen, Vlaams Brabant, Limburg and the Antwerp region. 

Phoenix Services operates RTs in the most demanding conditions

BELGIUM

Phoenix Services LLC provides a responsive world-class service to steel producers around the globe. Their core services include slag handling with slag pot carriers and front-end loaders, the recovery and sizing of scrap metal, processing slag for use by steel mills and for use as aggregate, and a range of other steelworks services.

The company's equipment has to operate in the most demanding conditions: high temperatures, dust and heavy loads. Phoenix operate Terberg tractors at sites in Brazil, the USA, France and Romania. At a steelworks site in Gent they have five RT403 units to handle 130 tonne mobile weigh-bridges used for just-in-time scrap handling. They also have a number of 282 units and have more tractors on order. Diego Claeys, General Manager at Phoenix Services of Belgium, commented: "We have been working with Terberg since 2013. The tractors are reliable and we are happy with them. We get good support from Terberg Tractors Belgium and, if necessary, from the factory." 





Equiport sees opportunities in ports and industries

BRAZIL

The Brazilian economy is expanding after a challenging period, and major projects are starting. Equiport has been selling Terberg equipment in Brazil since 2009 and was appointed as official distributor in 2019. The company has been very successful selling reach stackers in this market and is hoping to build on this experience when developing the tractor market.

Mr. Elision Garcia, Managing Director and co-owner: "Our product portfolio is now better matched to the needs of our customers and we are looking forward to increasing the success of Terberg on the Brazilian market. We see great opportunities in both port and industrial applications."

There are currently around 150 Terberg tractors operating in Brazil, in a number of settings. In the near future, 19 new YT222 units will be delivered for a pulp handling project in Santos.

Additionally, two RT403s are on their way to the Rio de Janeiro area for an industrial customer who are already operating seven RT382 4x4 tractors. ▀



Additional YTs for Halterm in Halifax

CANADA

Halterm Container Terminal is located in Halifax, Nova Scotia and has enjoyed significant growth over the last three years and is currently renewing some of its fleet of port equipment.

After a careful selection process, Terberg distributor Cropac was awarded the order for an initial three YT222 tractors. These were delivered in October 2018, just in time to test them in the harsh winter conditions in Canada. In 2019 Halterm ordered nine more of these units.

Kim Holtermand, Managing Director & CEO, Halterm commented: "Halterm continues to invest in quality port equipment to support growth and to ensure reliability in our service to customers. With a fifth Super Post-Panamax ship-to-shore crane to arrive early in 2020 we have invested in the container yard equipment, RTGs and terminal tractors that will deliver

consistency in our operation. The initial three Terberg YT222 units have performed according to our expectations and we look forward to receiving the additional units to complete this project"

Lou Proietti, Sales Manager, Cropac: "Needless to say we are very pleased with the order and repeating order of Halterm. We are a distributor for Terberg since 2017 and we have had great success with the product. Terberg did not have YT 4x2 units in a port in Canada yet and by the end of 2019 three port operators will have the Terberg YT units in their fleet, that's progress."

Ron van Arkel, Vice-President, Terberg tractors Americas: "We are more than happy with the performance of our carefully selected distributors in Canada and the short time they needed to make this an important and mature market for Terberg. The missing link was always



the after-sales. With our distributor network in place, we were able to tackle this obstacle, and the results speak for themselves."



PORT APPLICATIONS

New APM terminals Moín to boost local economy

COSTA RICA

The Moín Container Terminal (MCT) is built on an artificial island off the Caribbean coast of Costa Rica and has been operational since February 2019. It can handle container carriers up to 8,500 TEU and has six ship-to-shore cranes. The terminal is expected to give a major boost to the economy of Costa Rica and provide significant direct and indirect employment.

Lemont, Terberg's distributor in Costa Rica, was awarded a contract for 42 YT Terminal tractors. The company was set up in 2010, close to the port. Owner Eric Gentschein commented: "The relationship between Terberg and the Gentschein family goes back at least 20 years.

In the past we have delivered units to countries such as Honduras, Nicaragua and Aruba, so we know Terberg and their quality level. The increased focus of Terberg on this region was an

important factor to team up with them. With our local office, workshop and mobile technicians we are able serve the region in the best possible way."



La Cisa expands services to US steel industry


TEXAS, USA



La Cisa is an Italian company which provides internal logistics services and rental equipment, primarily to the steel industry. The company operates at ten sites in Italy and is now working with new customers in other countries such as the United States, Kazakhstan, Romania and Spain. La Cisa has been a Terberg customer for many years and currently operates around 75 Terberg tractors.

For a project in Texas, La Cisa has invested in two YT and four RT tractors. These are used for handling long steel pipes. Due to the length of the pipes they are transported on two linked roll trailers customised for this operation.

Mr. Paola Provenzi, owner and CEO of La Cisa: "We have a large fleet of Terberg equipment in Europe and of course we have other equipment in our fleet as well. However the Terberg units are giving us the performance we are looking

for. The operation in USA is a new chapter in the history of our company and the fact that Terberg, as one of our top-tier suppliers, has an operation in USA, so the parts supply is guaranteed, was one of the reasons we were comfortable ordering units from Terberg for this operation." 



Transformation at the Port of Wilmington


DELAWARE, USA

GT USA is the US arm of Gultainer, the world's largest privately owned, independent ports and logistics company. GT's presence in North America expanded in 2018 with the signing of a 50-year concession agreement with the state of Delaware to manage and operate the Port of Wilmington, a deep-water port and marine terminal serving the Eastern Seaboard.



The company has placed an initial order of 16 YT tractors. These units are customised with several options so the drivers are even more comfortable and productive.

Eric Casey, CEO of GT USA Wilmington, commented: "We are eager to take delivery of these tractors in the coming months to enhance and support our transformation at the Port of Wilmington. We will continue to enhance operations through the introduction of this and other cargo handling equipment throughout 2019 as part of the \$100 million-plus

modernization and improvement program at the port. We are delighted to continue the 30-year relationship that our parent company has had with Terberg for terminal tractors. They have consistently proven to be reliable, cost effective and inevitably will exceed life cycle expectations." 

First electric shunt truck in Canada

CANADA

Terberg Distributor Train Trailer Delivered an electric Terberg YT202-EV yard tractor to Loblaw in Canada, the largest grocery company in Canada. It is the first pure electric shunt truck in Canada.

"Train Trailer is very excited to bring an electric vehicle to North America," said James Currier, national sales manager for Train Trailer. "We've been pushing Terberg to allow us access to one, not an easy task given the demand from their European customers.

Loblaw has several distribution centers across Canada where the unit can be tested. The Canadian climate is sometimes unforgiving. As this is a new product in the Canadian market, they want to be able to test it in several different environments. 



Left: James Currier (Train Trailer) and right: Wayne Scott (Loblaw)



20 YTs for Montreal Gateway Terminals

CANADA

After a careful selection process, the Montreal Gateway Terminals Partnership decided to purchase 20 new Terberg YT222 Terminal Tractors from Cropac Equipment's branch in Laval. According to Montreal Gateway Terminals Vice President and General Manager of Maintenance & Engineering, Daniel Boyer, Terberg's proven design for longevity, quality and user-friendly serviceability and operator comfort were crucial in the company's decision. "Terberg has the proven quality we need for our fleet, combined with Cropac's industry best sales and service team, we felt this was the right decision for us."

Daniel Boyer went on to say that the anticipated reduction of operating cost through predictive maintenance, fuel consumption and productivity, also the reduction of air pollutants were important factors when deciding on the Terberg tractors. "We expect the Terberg tractors to improve our business through advanced operator ergonomics and comfort, which we predict will increase productivity".



Italsempione invests in BC182 to work more efficient

ITALY



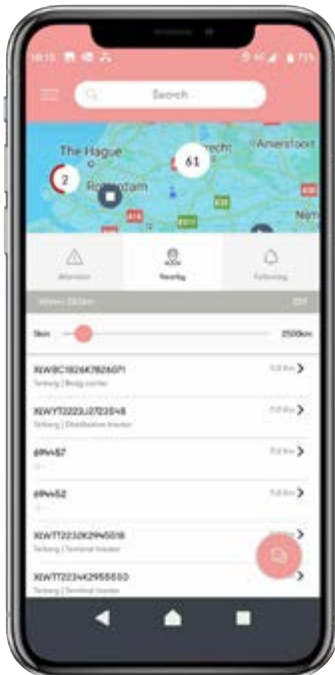
Since 1955 Italsempione, a well-established freight forwarding company, has been searching for the most innovative solutions to simplify processes and offer an efficient and timely service to its customers. The company provides groupage and full load services as well as support for customs procedures and integrated logistics services for many industries.

Italsempione invested in a Terberg BC182 body carrier for its depot at Arluno, Italy, where the substantial increase in the number of trucks delivering goods throughout Europe required the simplification of the unloading and handling operations. The unit is used for transporting both swap bodies and semitrailers. Italsempione found that this dedicated body carrier's agility, small turning radius, and rapid swap operations save a lot of time compared with conventional trucks. ▀



Genoa Port Terminal optimizes servicing with remote monitoring

ITALY



Gruppo Spinelli is a leading Italian logistics service provider. The family-owned company was founded in 1963 and initially specialised in road transport. Nowadays they cover the entire logistics chain and handle over 1.5 million TEU every year at their depots in northern and central Italy.

-The company's Genoa Port Terminal is highly efficient at handling container and RoRo traffic. It deals with 600,000 TEU/yr and has benefitted from major investments in recent years and can now accommodate vessels up to 294 metres long. The terminal's handling equipment includes 10 mobile cranes and 18 reach stackers. They also have 25 Terberg

tractors, both RT223s for RoRo operations and YT222s for terminal operations. Their latest RT223 units feature the Terberg Remote Monitoring System. This enables the maintenance department to track and monitor these tractors continuously and optimize servicing. The new YT222 tractors have the latest Cummins Stage 5 engines - the cleanest engines currently available. ▀

Brivio & Viganò selects YT222

ITALY

Brivio & Viganò provides a full range of supply chain services. The company is one of the largest operators in Italy. The warehousing operations include storage, handling, picking, repackaging, labelling and shipping, as well as supporting activities for e-commerce, etc.

The company selected Terberg YT222 tractors for handling semitrailers at its depots given the advantages in terms of safety, low downtime, quick operations and low total cost of ownership. Initially Brivio & Viganò purchased the vehicles but they have now decided to enter into a long term full-service rental contract with Manuport.



Terminal San Giorgio expands RT fleet

ITALY

TSG is owned and operated by the Gavio Group. It has a strong focus on innovation and investment, which has made it the leading multipurpose terminal in Genoa. In addition to containers, break-bulk cargo, etc. this terminal also handles large numbers of new and used cars and other vehicles and is a key hub of the "Motorway of the Sea".

TSG recently expanded their fleet of 18 RT223 tractors by another 4 units, supported by



Manuport under a full maintenance contract. Maurizio Anselmo, MD, commented: "We load and unload vessels for our customer Grimaldi Lines every day and we want to guarantee the best performance. The Terberg tractors are the

best combination for the job because they are reliable machines and supported by a good local organisation that fulfils all our needs."



ATI expands fleet with 47 YT180 tractors

PHILIPPINES



Asian Terminals Incorporated (ATI) operates a number of terminals and off-dock yards in the Philippines. The company is backed by DP World. Its terminals handle containerized and non-containerized cargo, bulk and break-bulk cargo, RoRo cargo and passengers. ATI invests continuously in terminal infrastructure, processes and technologies to further increase efficiency and productivity.

ATI now has a fleet of 119 Terberg terminal tractors which it is aiming to expand further. The latest delivery was of 47 YT180s for the operations in South Harbour and Batangas. ▀

270 Terberg tractors operating across Vietnam

VIETNAM



The expansion of the Vietnamese economy is reflected in the demand for port equipment. There are now 270 Terberg tractors operating in terminals across the country. The largest terminal operator in the country, Saigon Newport Corporation, recently took delivery of another 6 units. Another large terminal at the Port of Danang also decided to extend their fleet, by 4 YT220 tractors. ▀



YT220 tractors for new Kuala Tanjung Port

INDONESIA

This new port in North Sumatra is a joint development of Pelindo 1 (the Indonesian state-owned port corporation) and the Port of Rotterdam Authority. It is strategically located near the busy Strait of Malacca and has the

potential to grow into Indonesia's premier transport hub. The first phase of the port development, a multipurpose terminal with a capacity of 600,000 TEU, has been completed. Terberg Tractors Malaysia supplied 21 YT220

tractors for this project. TTM also supplied 20 of these tractors, as well as container trailers, to the associated Belawan Domestic Container Terminal. ▀

TMIT expands at the Port of Thilawa

MYANMAR

TMIT operates the multipurpose terminal at Thilawa. This port is expanding as operations at the port of Yangon are affected by the tides and a lack of space for expansion. TMIT can handle vessels with a length of up to 200 metres and a draught of 9 metres. The company initially invested in 6 Terberg YT180 tractors and recently placed an order for 4 more units. ▀





Support in Port of Salalah

OMAN

In May 2018 the Port of Salalah in Oman was hit by tropical cyclone Mekunu. The terminal was affected by floodwater coming down from the mountains as well as a tidal surge. Fortunately all terminal staff were safe as the necessary precautions had been taken by the port. Many buildings, including the maintenance workshop and stores, were submerged in two metres of water and mud. After the water had subsided, and around half a metre of mud cleared away, the damage could be assessed.

The fleet of tractors had felt the full effect of the flooding with water and mud entering the engine, gearbox, transmission and brakes of almost the entire fleet. The terminal contacted Terberg for support and within a week a Terberg team from the UK, Netherlands and the UAE were on site. Together with the Port of Salalah a process was developed to wash, strip, overhaul and test tractors in order to get them safely and reliably back in to operation. On June 3rd, within two days after the team's arrival on site, 30 tractors were ready to handle the first incoming vessel.

Within two days after the team's arrival, 30 tractors were ready to handle the first incoming vessel.

"Nothing could have prepared us for the conditions that we would face upon arriving at the port. Early on it was clear that unique solutions were required for the challenges faced. High ambient temperatures and it being the month of Ramadan did little to hamper the recovery efforts. A once in a lifetime experience for all involved that proved the importance of the partnership Terberg have with Port of Salalah" said Daniel Gambba-Jones, After Sales Manager for Terberg Middle East FZE.

Within three weeks around 120 tractors were back in service. Terberg remained on site to assist with breakdowns as well as identify and report back on the long term effects that could impact the fleet. Thirteen new tractors were supplied at short notice from the Netherlands and Saudi Arabia, which arrived early in July 2018.

At the end of 2018 the Port of Salalah confirmed an order to replace their fleet with 171 new Terberg YT222 tractors, the first deliveries of which took place in May 2019 and will continue throughout the year. The tractors are equipped with the APMT standard safety features such as the safety frame behind the cabin and operator interlock systems along with a number of terminal-specific requirements. ▀

The Port of Salalah confirmed an order to replace their fleet in 2019 with 171 new Terberg YT222 tractors.



MPS expands Tema Terminal

GHANA

Meridian Port Services (MPS), a consortium of shareholders including Bolloré Transport & Logistics and APM Terminals, runs part of the existing Tema terminal. MPS is currently expanding the port with the aim of making it



West Africa's largest and most well-equipped seaport, with a new 1.4-kilometre quay, breakwater and a deep access channel. As part of this project they ordered ten YT180 tractors for the first phase of the expansion project.

These tractors were built by Terberg Tractors Malaysia. They are covered by a full parts, service and maintenance agreement concluded with Pasico Ghana, a subsidiary of Terberg distributor Paterson Simons. ▀

New distributor Novengi supplies 14 YT222 tractors to CHCL

MAURITIUS



Cargo Handling Corporation Ltd (CHCL) is the state-owned operator of the Mauritius Container Terminal and the Multipurpose Terminal on this island in the Indian Ocean. The company invested in 14 YT222 tractors, supported by a repair and maintenance package provided by new Terberg distributor Novengi. These tractors normally handle containers but also offloaded the first carriages for the new Metro Express light rail system being set up on Mauritius. ▀





INDUSTRIAL APPLICATIONS

Lujabetoni selects Terberg for its first RoRo tractor

FINLAND

“They know which tractors can survive the cold Finnish winters.”

Lujabetoni is Finland’s leading concrete and concrete products manufacturer. It is one of the largest family-owned businesses in Finland, now run by the third generation. Lujabetoni has 30 factories in Finland, Sweden and Russia and a workforce numbering more than 900.

Lujabetoni recently took delivery of their first RT223 tractor. It is used with NT Liftec translifters and Novatech roll trailers to carry precast concrete products from the factory to storage, and raw materials from storage to the factory.

Pekka Ruotsalainen, Transport Manager, commented: “We chose Terberg at the suggestion of our partners in several Finnish harbours - they know which tractors can survive the cold Finnish winters. Additionally the tractor offers good ergonomics to the driver and has a low noise level.”




Euroports Rauma again chooses Terberg

FINLAND

Euroports Finland is a full service port operator. Rauma is Finland's largest export port for paper and also handles other cargo such as chemicals and forestry products. Europort Rauma is the largest container port in West Finland, handling approximately six million tonnes of cargo annually.

Euroports Rauma has been working with Terberg tractors since 2006 and recently ordered another two RT283 units for their RoRo operations. These vehicles have proven that they can cope with the harsh winters in this part of the world. Their fleet currently includes 15 Terberg tractors used for RoRo, container trailer and Meclift container mover operations.

Technical Manager Petri Viinikkala noted: "We chose Terberg because of the low maintenance costs and high usability. The drivers are very happy with the tractors because of the powerful engine, easily adjustable seats, the cab doors and because the noise level is lower than in other tractors." 





Road/rail tractors offer new options for M.J. Eriksson

DENMARK



The railway track between Langå and Hobro was upgraded to accommodate faster trains. The work was undertaken by M.J. Eriksson, a construction and civil engineering company. The upgrade meant taking up the track, sleepers and ballast and then re-laying them using a 400-metre long work train pulled by two Terberg Zagro road/rail tractors.

Project manager Sven-Åge Sletbak: "We can move the two machines around flexibly, hopping off the track when necessary - a locomotive cannot do that. Compared to a locomotive, they are significantly cheaper to purchase and operate, including their diesel fuel."

Instructor Keld Røjsklær added: "The machines offer new options. We can drive in both directions on the tracks, and they can also

perform other transport work at the construction sites. Apart from their great tractive force, I would like to highlight the cabin comfort, where the machine operator enjoys such things as air conditioning, cameras, spring-cushion seats and a wide-angle view. Our people spend many hours in the machines, and comfort contributes to job satisfaction."

Terberg's distributor N.C. Nielsen arranged all the required approvals for operation on the Danish rail network at short notice. ■

"Apart from their great tractive force, I would like to highlight the cabin comfort."



Fjord Line changes fleet over to Terberg

DENMARK


Since 1993, Fjord Line has worked hard to make its ferries and terminals greener. The company's newest ships, MS Stavangerfjord and MS Bergenfjord are powered by environmentally friendly liquefied natural gas (LNG). This produces much lower emissions of greenhouse gas and particulates than traditional heavy crude oil.

When one of their ferries docks there is only one hour for the full turnaround of the cars, trucks, semi-trailers, roll trailers, caravans, camper vans and palletised cargo which are spread over the 1.35 km of lane metres. Fjord Line recently decided to change its fleet over to

Terberg and ordered nine RT223 tractors. These are supported by a fleet of Linde trucks, also supplied by N.C. Nielsen, Terberg's distributor.

Karsten Gaardboe West, Terminal Manager, Fjord Line Denmark: "We like to look after our employees, so comfort was an important selection criterion. They have to drive over the ramp many times, which is why the air suspension on the machines is crucial. The noise level is low, the driver's position can be reversed with a single click, the machines accelerate quickly and the new terminal tractors generate minimum pollution. This is completely in line with our environmental policy. We generally experience



a high level of service with N.C. Nielsen. This was definitely a decisive factor in the decision to use Terberg terminal tractors." 

"Comfort was an important selection criterion."



PNO focuses on electric

DENMARK



PNO has developed a number of innovations to reduce the carbon footprint of road transport. For example, to reduce emissions from the diesel-powered refrigeration units on reefer trailers they have introduced an electric alternative. This is powered by solar panels on the trailer roof and generators on the axles.

Many trailers on the road are empty or only partly loaded. Improving their utilisation would significantly reduce carbon emissions. For this reason PNO has introduced the Fleet Platform

& Driver App which is currently being tested. It enables the company's customers to see both their own trailers and all PNO's available short-term rental trailers.

Antonio Ludvigsson, Purchasing Manager and Environmental Manager, PNO Sweden: "What we are trying to create is a network where everyone can join in with their free trailers, with any unused capacity, from one metre of cargo space to a whole trailer. With the app we are trying to give the logistics industry a solution

to reduce the number of empty trips. We have also invested in a large array of solar panels which generates about one-third of the electricity we use."

PNO is currently operating two Terberg electric yard tractors and is planning to get more of these clean units. They also have YT and RT tractors with stage 4f engines and they will soon receive the first stage 5 models. ▀



- PNO is the Nordic region's leading trailer leasing company with a fleet of more than 10,000 units. The head office is in Copenhagen and the company has subsidiaries in Helsinki, Oslo, Helsingborg in Sweden, Horsens in Denmark and Venlo in the Netherlands.




Low-entry DT223 exceeds expectations at Hardeman

THE NETHERLANDS

Hardeman is both a building construction business and a supplier of construction materials.

Their fleet includes almost 30 trucks, all fitted with loader cranes. The semi-trailers are loaded at the base, while the trucks are on the road. When a truck returns to base it returns an empty

trailer and collects a loaded one. As a result the loading crew have to shunt dozens of semi-trailers every day. Until last year Hardeman used a conventional road truck, but this was time-consuming and not ergonomic as the driver had to climb in and out of the cab many times during a working day. For this reason the company decided to invest in a DT223 tractor. The

operators loved the low-entry unit from day one and it also made operations much more efficient. Mr Harm Hardeman commented: "We look forward to receiving this second tractor. The first Terberg unit really exceeded our expectations." 



150 years of customer service



One of the reasons that Terberg has just celebrated its 150th anniversary is that the company not only produces good products, but also provides its customers with a service to match.

In an interview, Geert Bruggink, Product Support Manager, Terberg Benschop, explained how the service organisation has developed over the years.

At present the world of service management is changing rapidly, and at Terberg we are responding to that by adjusting our aftermarket support strategy. In February 2019 we merged the Product Support department and the Spare Parts department into the Aftersales department, which now has a headcount of 18. This helps us to provide a more comprehensive service package. For example, the technical expertise in our department enables us to provide customers with comprehensive Total Cost of Ownership (TCO) calculations.

“There are already 800 tractors fitted with Remote Monitoring and the data we collect is combined with the expertise of our engineers to further improve fault code analysis and best repair practices.”

In recent years Terberg companies such as Terberg DTS, Terberg Tractors Belgium, Terberg Spezialfahrzeuge GmbH and Manuport have rapidly developed their position in the rental market to meet customer demand in their countries. By renting, customers pay for the tractors they need, when they need them. Obviously, our service organisation has to adapt to this change. This development, and the rapid changes in vehicle technology, set the challenges for the Terberg service organisations.

All our subsidiaries work closely together on developing our service offering. The introduction of the Remote Monitoring System (RMS) in 2018 was an important step.

A range of data sources including parts usage, geographical data and life cycle data help us to develop services such as supplying parts based on the number of running hours and triggering service appointments based on a vehicle’s condition. This all feeds into predictive maintenance, to safeguard what is most important to our customer: having operational equipment.

The way we deliver support is also changing. Technology such as artificial reality and remote presence enable us to assist customers without having to travel across the world. We also aim to combine our RMS with the smart technology of our suppliers to offer our customers a comprehensive life cycle management solution. Finally, all this new technology feeds into the training we provide to our distributors and end-users, both at Benschop and on-site. All in all, there is enough to keep the Product support department very busy.”



Smart
Operation



Remote
Diagnostics



Predictive
Maintenance



Proactive
Sales



Design
Optimization



The Milk Run at Benschop

Last year the new warehouse at our Benschop plant became operational.

At first the parts were transported from the new warehouse to the assembly line as they had always been: in large pallet boxes, handled by forklift trucks. This had two disadvantages. First of all it resulted in a significant number of forklift operations close to personnel which was undesirable for safety reasons. Secondly, the assembly operatives could not move the large boxes by hand. This meant they regularly had to walk between the point of work and the boxes with parts, wasting time.

This year we worked hard to improve the delivery of parts to the line by introducing a "milk run". This is an industry term for a small train consisting of an electric tractor (tugger) and a number of trailers carrying roll cages and pallet dollies.

Logistics Manager Wim Hunik explained: "The roll cages contain bins and trays with small

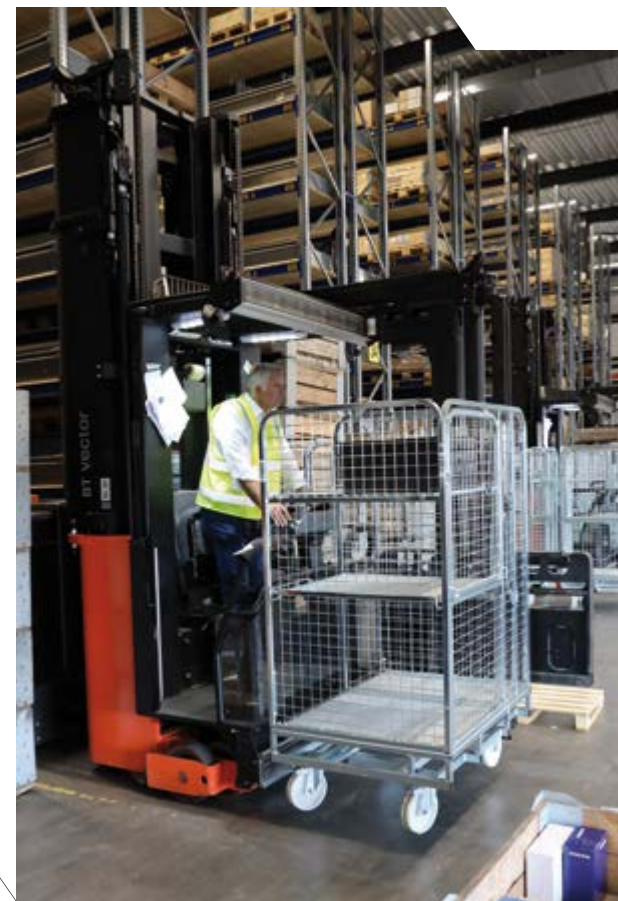
and light parts. The assembly operatives can easily move the cages to the point where they are working, and no longer have to walk to the pallet boxes and back. The parts bins also make life easier for them as the parts are easy to see and protected against damage. The shelves of the roll cages can be folded away to accommodate larger boxes.

Forklift trucks are now only used for the largest and heaviest components such as axles and engines. To supplement the milk run deliveries we have Two-Bin (or Kanban) stocks at the production line. This system is used for components such as nuts and bolts which are used on every vehicle."

Wim's colleague Gerrit-Jan Verburg, Assistant Supply Manager, added: "We decided to design the parts trays in-house, rather than go for standard trays. They now have just the right cut-outs and dividers for the products we handle. It was worth the effort as it makes our people more efficient. ▀"

The roll cages and in-house designed trays create an efficient and comfortable picking process for assembly operatives.

Introducing the milk run has resulted in a significant drop in forklift operations from the warehouse to production.



Terberg Malaysia staff days

Every year Terberg Tractors Malaysia organises an event for all its employees. This year it was held over three days in April and the programme included a treasure hunt, team building programme and annual dinner. The venue was the Klana Resort Seremban. 



Gleneagles golf day in the UK

A very special day in May 2019 saw the sun shine and a fantastic turnout at the world famous Gleneagles Golf Club. Terberg organized a fantastic start to a month of celebrations for the Royal Terberg Group in its 150th Year. 



IJsselstein bicycle tour in The Netherlands



Every year the IJsselstein bicycle tour is organized in June and Terberg is a loyal participant with a group of enthusiastic colleagues. The foundation that organizes the tour uses the funds to support local activities for children, health research and culture. ▀

CORPORATE INFORMATION

DISTRIBUTORS

EUROPE

Austria
Terberg Spezialfahrzeuge GmbH
Hamburg
terbergspezialfahrzeuge.de

Belgium
Terberg Tractors Belgium BvbA
Oostakker
terbergtractorsbelgium.be

Bosnia-Herzegovina
Okovje D.O.O.
Podnart
okovje.com

Croatia
Okovje D.O.O.
Podnart
okovje.com

Cyprus
Alexander Dimitriou & Sons Ltd.
Nicosia
dimitriou.com

Czech Republic
Linde Material Handling Česká republika s.r.o.
Praha
linde-mh.cz

Denmark
N.C. Nielsen A/S
Balling
nc-nielsen.dk

Estonia
Willenbrock Baltic OÜ
Harjumaa
willenbrock.ee

Finland
Sigma Trukit Oy
Helsinki
sigmatrukkit.fi

France
Francetruck S.A.
Goussainville
francetruck.com

Germany
Terberg Spezialfahrzeuge GmbH
Hamburg
terbergspezialfahrzeuge.de

Greece
D.F. Sarantopoulos S.A.
Athens
sarantopoulos.com.gr

Hungary
Terberg Benschop B.V.
Benschop
terbergbenschop.nl

Iceland
N.C. Nielsen A/S
Balling
nc-nielsen.dk

Israel
David Czapnik & Sons Ltd.
Rishon Le Zion
czapnik.co.il

Italy
Manuport s.r.l.
Genoa
manuport.it

Latvia
SIA "Alwark"
Marupes Novads
alwark.lv

Lithuania
UAB "Alwark"
Vilnius
alwark.lt

Malta
Motherwell Bridge Industries Ltd.
Hal Far
mbmalta.com

Montenegro
Okovje D.O.O.
Podnart
okovje.com

Macedonia (Northern)
Okovje D.O.O.
Podnart
okovje.com

The Netherlands
Terberg Benschop B.V.
Benschop
terbergbenschop.nl

Norway
N.C. Nielsen A/S
Balling
nc-nielsen.dk

Poland
Toyota Material Handling Polska Sp. Z.o.o.
Jaktorow
toyota-forklifts.pl

Portugal
Iberlift Portugal (Sede)
Sintra
iberlift.pt

Romania
Cemps S.A.
Bucarest
cemps.ro

Russia
Konecranes Demag Rus JSC
St. Petersburg
konecranes.ru

Serbia
Okovje D.O.O.
Podnart
okovje.com

Slovakia
Linde Material Handling Slovenska republika s.r.o.
Trencin
linde-mh.sk

Slovenia
Okovje D.O.O.
Podnart
okovje.com

Spain
Alfaland S.A.
Madrid
alfaland.es

Sweden
N.C. Nielsen A/S
Balling
nc-nielsen.dk

Switzerland
Terberg Spezialfahrzeuge GmbH
Hamburg
terbergspezialfahrzeuge.de

Turkey
Portunus Port spares & services
Istanbul
portunus.com

Ukraine
LLC Trans-service KTT
Odessa
transservice.com.ua

United Kingdom
Terberg DTS Ltd.
Elland, Halifax
terbergdts.co.uk

MIDDLE EAST

Abu Dhabi
Specialized Technical Equipment - STE
Abu Dhabi
steest.net

Iraq
Boranex Middle East Trading L.L.C.
Dubai

Jordan
Etc Engineering Trading Contracting
Amman
etcogroup.com

Kuwait
Terberg Middle East FZE
Dubai
terbergmiddleeast.ae

Lebanon
Etc Engineering Trading Contracting
Amman
etcogroup.com

Qatar
Milaha Trading (Navigation Trading Agencies)
Doha
milaha.com

Saudi Arabia
Al-Iman for Contracting & Trading
Dammam
alimanmhd.com

United Arab Emirates
Terberg Middle East FZE
Dubai
terbergmiddleeast.ae

AFRICA

Algeria
SarI KOM Algerie
Ain Taya

Benin
Francetruck S.A.
Goussainville
francetruck.com

Botswana
EIE Group
Pomona, Gauteng
eiegroup.co.za

Cameroon
Francetruck S.A.
Goussainville
francetruck.com

Chad
Francetruck S.A.
Goussainville
francetruck.com

Comoros
Novengi Ltd.
Les Pailles
novengi.mu

Congo-Brazzaville
Francetruck S.A.
Goussainville
francetruck.com

Congo-Kinshasa
Francetruck S.A.
Goussainville
francetruck.com

Côte d'Ivoire
Francetruck S.A.
Goussainville
francetruck.com

Djibouti
Tamamoul Motors
Djibouti
tamamoul.com

Egypt
Kabadaya Co. for Specialized Equipment
Cairo
special-equipment.com

Equatorial Guinea
Francetruck S.A.
Goussainville
francetruck.com

Ghana
Paterson Simons & Co (Africa) Ltd.
Brighton, East Sussex
patersonsimons.com

Guinea
Francetruck S.A.
Goussainville
francetruck.com

Kenya
Kone Liftrucks Ltd.
Mombasa
kone.co.ke

Lesotho
EIE Group
Pomona, Gauteng
eiigroup.co.za

Liberia
Paterson Simons & Co (Africa) Ltd.
Brighton, East Sussex
patersonsimons.com

Libya
Sunrise Int. Trading & Service Co. Ltd.
Valletta
info@sunrise.com.mt

Malawi
EIE Group
Pomona, Gauteng
eiigroup.co.za

Mali
Francetruck S.A.
Goussainville
francetruck.com

Mauritius
Novengi Ltd.
Les Pailles
novengi.mu

Mayotte
Novengi Ltd.
Les Pailles
novengi.mu

Mauritania
Francetruck S.A.
Goussainville
francetruck.com

Morocco
SPIA Maroc
Casablanca
spia.ma

Mozambique
EIE Group
Pomona, Gauteng
eiigroup.co.za

Madagascar
Novengi Ltd.
Les Pailles
novengi.mu

Namibia
EIE Group
Pomona, Gauteng
eiigroup.co.za

Niger
Francetruck S.A.
Goussainville
francetruck.com

Nigeria
Paterson Simons & Co (Africa) Ltd.
Brighton, East Sussex
patersonsimons.com

Reunion Islands
Novengi Ltd.
Les Pailles
novengi.mu

Senegal
Francetruck S.A.
Goussainville
francetruck.com

Seychelles
Novengi Ltd.
Les Pailles
novengi.mu

SOUTH AFRICA

EIE Group
Pomona, Gauteng
eiigroup.co.za

Swaziland
EIE Group
Pomona, Gauteng
eiigroup.co.za

Togo
Francetruck S.A.
Goussainville
francetruck.com

Zambia
EIE Group
Pomona, Gauteng
eiigroup.co.za

NORTH AMERICA

Carolina (North and South)
Linder Industrial Machinery
Plant City, FL
linderco.com

Canada
Cropac Equipment, Inc.
Oakville, Ontario
cropac.com

Train Trailer Limited
Mississauga, Ontario
traintrailer.com

Williams Machinery Limited Partnership
Surrey British Columbia
williamsmachinery.com

Florida
Linder Industrial Machinery
Plant City, FL
linderco.com

Mexico
Madisa
Nuevo León
Madisa.com

USA

Sates: Maine, Vermont, New York,
Pennsylvania, New Jersey, New
Hampshire,
Massachusetts, Connecticut, Maryland,
Delaware:
Mi-Jack, Inc.
Howell, New Jersey
Mi-jack.com

Terberg Tractors Americas, Inc.
Miami
terbergtractorsamericas.com

LATIN AMERICA

Argentina
LMA Industrial S.A.
Buenos Aires
hysterarg.com.ar

Bolivia
Moviluno
Montevideo
moviluno.com.uy

Brazil
Equiport Equipamentos para Portos Ltda
Santos
equiport.com.br

Chili
Tattersall Maquinarias S.A.
Santiago
tattersall-maquinarias.cl

Colombia
Global Port Equipment Colombia S.A.S.
Bogotá
gpeamericas.com

Costa Rica
Lemont Costa Rica LLC Ltda
Limon

Dominican Republic
Avelino Abreu S.A.S.
Santo Domingo
avelinoabreu.com

Panama
Global Port Equipment Americas
Panama
gpeamericas.com

Paraguay
Moviluno
Montevideo
moviluno.com.uy

Peru
Eurolift Peru S.A.
Lima
ltperu.pe

Uruguay
Moviluno
Montevideo
moviluno.com.uy

AUSTRALIA

Australia
Clark Equipment Sales Pty. Ltd.
Hornsby
clarkequipment.com

New Zealand
Clark Equipment Sales Pty. Ltd.
Hornsby
clarkequipment.com

Pacific Islands
Clark Equipment Sales Pty. Ltd.
Hornsby
clarkequipment.com

FAR EAST

Bangladesh
Essentials Trade Lines Ltd.
Dhaka
essentials.com.bd

China
Hoi Tung Innotek (Shenzhen) Co., Ltd.
Guangdong
htinnotek.com

Hong Kong
KCL Liftrucks Limited
Hong Kong
kclfalcon.com

India
Portrucks Equipment Pvt. Ltd.
Chennai
portrucks.com

Indonesia
PT. Towin Innoven
Jakarta

PT. Harbarindo Baharitama
Jakarta
harbarindo.com

Malaysia
Terberg Tractors Malaysia Sdn. Bhd.
Selangor Darul Ehsan
terbergspecialvehicles.com

Pakistan
Karsaz (Pvt) Ltd.
Karachi
karsaz.com.pk

Philippines
Pink Armour Corporation
Manila

Singapore
Terberg Tractors Malaysia Sdn. Bhd.
Selangor Darul Ehsan
terbergspecialvehicles.com

South Korea
Portro Co. Ltd.
Busan

Sri Lanka
Termss Global (Pvt) Ltd.
Colombo
termss.com

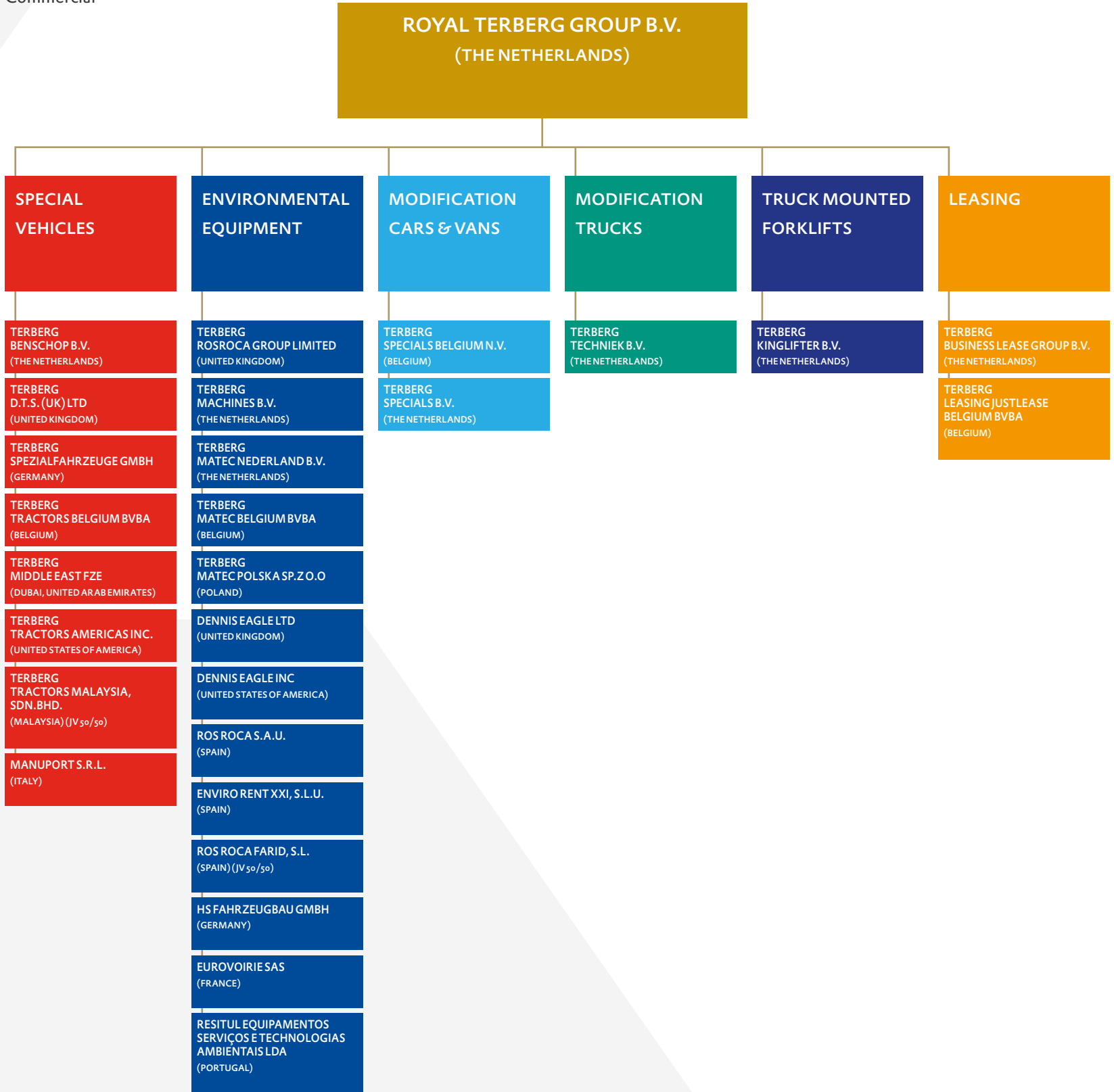
Taiwan
Accumulator International Inc.
Taipei
accumulator.com.tw

Thailand (Laem Chabang)
Yasith Co. Ltd.
Bangkok
yasith.co.th

Vietnam
CICA Vietnam Ltd.
Ho Chi Minh City
cica.com.vn

CORPORATE STRUCTURE

Commercial



SPECIAL VEHICLES

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

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.

CAR & VAN MODIFICATION

Modifications to cars and light commercial vehicles span a wide range: for wheelchair users, police forces, mobile offices, maintenance contractors, etc.

TRUCK-MOUNTED FORK LIFT TRUCKS

This division produces truck-mounted fork lift trucks.

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.

LEASING

This division is one of the largest independent car leasing and rental companies in the Netherlands, serving both the business and consumer markets.

The consumer market is served under the Justlease brand.



Key Facts

- **FOUNDED IN 1869**
- **FAMILY-OWNED**
- **TURNOVER: € 954 MILLION**
- **EMPLOYEES: 2,700**
- **COMPANIES IN 12 COUNTRIES**
- **EXPORTS: > 100 COUNTRIES**





Terberg Special Vehicles
P.O. Box 2
3405 ZG Benschop
The Netherlands

Tel. +31348 45 92 11
info@terbergbenschop.nl

TERBERGSPECIALVEHICLES.COM