

REVIEW OF THE YEAR

Market dynamics, prices, trends and corporate activity in the tank container market in 2021

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Satisfied MRI clients at M&S Logistics, Peacock and Eagletainer

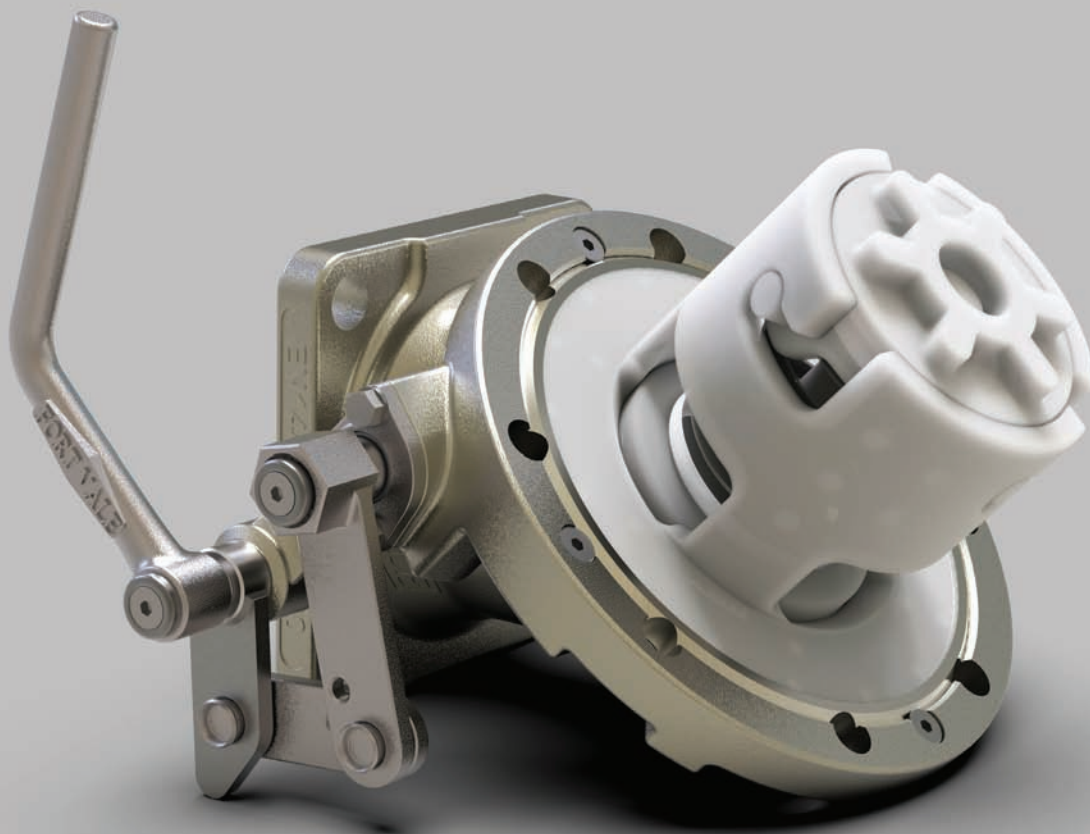
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Tankcontainer MAGAZINE

Perolo's Managing Director Thierry Bourguignon tells Tankcontainer Magazine how it has successfully grown under its BIP umbrella while navigating the coronavirus crisis.

Valve-valve-
VOOM

Volume 9 | Issue 1 | March 2022



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Perolo's Managing Director **Thierry Bourguignon** tells *Tankcontainer Magazine* how it has successfully grown under its BIP umbrella while navigating the coronavirus crisis.

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Record results flow from a year of acute operational difficulties

The US gangsta rapper, LL Cool J, summed it up well: "When adversity strikes, that's when you have to be the most calm, take a step back, stay strong, stay grounded and press on."



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REVIEW OF THE YEAR



Review of the Year 2021

Leslie McCune reflects on an extraordinary year in which the industry prospered, despite the market turbulence.

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Record results flow

from a year of acute operational difficulties

The US gangsta rapper, LL Cool J, summed it up well: “When adversity strikes, that’s when you have to be the most calm, take a step back, stay strong, stay grounded and press on.”

2021 was all about dealing with operational adversity for the global tank container industry as the unexpectedly rapid economic rebound from the ravages of the Covid-19 pandemic pressurised, and occasionally fractured, supply chains. As we discuss in the ‘Review of the Year 2021’ (Page 19), tank container players stayed strong, stayed grounded and pressed on with innovative solutions, continued investment and high customer service levels. Tank containers as an asset class demonstrated their value as part of the solution, enabling bulk liquid chemicals and food stuffs to be temporarily stored or re-directed at short notice as supply chains were forced to flex due to ocean carrier unpredictability, port congestion and haulier shortages.

Operationally, the market was a mess with slot availability on ocean carriers extremely limited (especially from Asia), liner rates rising dramatically due to capacity constraints, unpredictable vessel rotations, cargoes cut or rolled, some shipping lines not accepting consignor-owned containers and hauliers prioritising payloads according to profitability.

Costs rocketed, prices ballooned, a sustained imbalance was created in the deep sea tank container fleet and hard-won efficiencies were compromised in an effort to deliver equipment and cargoes. Cleaning and repair availability was very tight.

Our market Review describes the fundamental drivers behind the rapid escalation of T11 tank container prices from a low of \$12,500 in 2020 to \$21,000 at the end of 2021, partly reflecting a 55% jump in the price of nickel in the past twelve months to a 10-year high (nickel accounts for over 40% of the price of stainless steel). Russia accounts for 6% of global supply and supplies are running low due to global underinvestment in mining and growing demand for base metals. Prices for ‘specials’, T50 gas and T75 cryogenic tank containers have all increased substantially with very high utilisation rates for gas and cryo.

Higher new build prices, and the prospect of higher interest rates, fed through into increased per diem lease rates, which bottomed at \$3 in 2020 but which are now around \$7, better reflecting the risk/reward expectations of investors. Consolidation among lessors in 2021 usefully removed one of the persistent sources of unsustainably low lease rates.

Delivery disruptions and demand uncertainties inevitably led to some chemical producers reassessing their tank container strategies. In this issue (Page 23), we highlight the situations when it might be best for a major chemical producer to own their tank containers, lease them in, or outsource the responsibility for moving their products to a tank container operator.

More positively, the robust market propelled rates upwards with demand currently strong in Asia, the Middle East and North America, where many tank container depots have been full as imports reached record levels. Asia remains the centre of activity growth and business development initiatives. Reflecting this intense global activity, the market leading tank container operator saw its year-on-year shipments increasing by 8.5% to an all-time high.

Tank container players benefited from their contractual ability to pass on record high freight costs to their customers, who developed a new appreciation of the value of reliable supply chain partners. Nevertheless, tank operators will have a tough time finding slots in 2022 and will be heavily reliant on the spot market.

As we predicted, the financial performance of the industry hit new highs in 2021 with a succession of tank container operators and manufacturers of ancillary fittings - including market leader Stolt, Bertschi and Fort Vale - reporting record results.

ITCO’s global fleet survey reported 53,285 tank container new builds in 2021, the third-highest total ever, behind the record 59,700 new builds in 2018 and 54,650 in 2019.

The global fleet grew 7.3% to a record high of 736,935 in 2021, compared with growth of 5.3% in 2020. However, the growth would have been partly attributable to supply chain disruptions which resulted in more tank containers being needed per tonne of product moved (a consequence of equipment being out of place, too costly to reposition or stranded due to the unavailability of slots).

Lessor fleet growth was weak at 2% - Peacock added 9,000 from its GEM acquisition while CS Leasing had the highest organic fleet increase (5,420). The owned or leased operator fleet was up 10.6% with China Railways reporting the largest increase (4,300). Bulkhaul and NewPort had no net fleet growth. ■

Leslie McCune, Editor

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Imperial opens larger tank cleaning facility and container depot in the Netherlands

Netherlands-based Imperial has opened a new tank cleaning facility in the country.

The new depot in Terneuzen replaces the firm's smaller operational site at Axel.

It has three separate cleaning bays - two for standard chemical products, operating at 100-200 bar pressure and with five or six cleaning heads.

There will also be a third cleaning line with a re-circulation cleaning system for heavy-duty cleaning of substances such as latex or synthetic resins.

Intermediate Bulk Containers (IBC) cleaning will also be able to be performed at the new site, while the extended steam facilities allow

tank heating out of hours and on weekends.

An on-site tank container depot for storage of empty and uncleaned units will also increase the flexibility of the cleaning services.

"Our new, state-of-the-art tank cleaning station accommodates the increasing demand for third party cleaning and storage facilities, provides even higher standards of quality, and enhances worker safety as the need for entry into tanks can now be virtually eradicated," said Robert Libbers, Imperial's site manager in Terneuzen.

"Furthermore, we are now more closely aligned with our group sustainability objectives, having minimised water consumption through

the sophisticated re-circulation system. Existing and new customers will greatly benefit from our newly-expanded cleaning and storage services."

René van de Ven, MD at Imperial in the Netherlands, added: "The investment in the new cleaning station at Terneuzen supports our policy to continuously increase our services and raise safety to the highest level - in line with our other tank cleaning sites, at Krems, Austria, and Salzgitter, Germany."

The facility is certified to ISO 9001 and ISO 14001 and is SQAS assessed. It is also a member of ATCN (the Dutch association of tank-cleaning specialists, which sets quality standards for its members). ■



Goodrich Asia Pacific expands its footprint in south-east Asia

Goodrich Asia Pacific has expanded its footprint in south-east Asia with the opening of a new office in Kuantan in the state of Pahang in peninsular Malaysia.

Kuantan is a growing hub for the petrochemical and allied industries, Goodrich notes, while its deep sea port provides good marine transport links between the east coast of Malaysia and the rest of south-east Asia. ■

Hush...

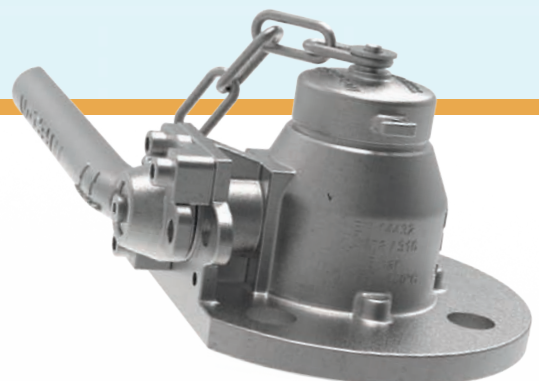
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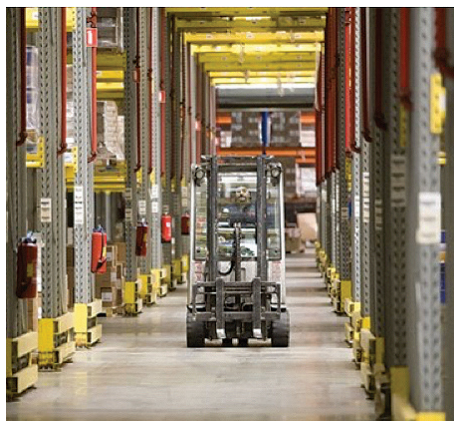


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H Essers will next month bring online a dedicated warehousing facility for Ecolab, a specialist in water and hygiene chemicals, in Spain.

H Essers will bring online a dedicated warehousing facility for Ecolab next month



The two companies have been working together since 1995 in Belgium and H Essers has since added facilities for Ecolab in Denmark and Romania. Ecolab was looking for a similar facility in the Iberian peninsula, which H Essers has been able to provide following its acquisition of Coral Transport & Stocks last year.

"The right licences had already been granted and Coral had a Seveso warehouse that would be perfect for Ecolab," says Lieven Severijns, business unit manager south at H Essers. "The added value of the takeover became immediately

apparent with these assets: both the knowledge and the infrastructure were readily available."

"Our years of experience with H Essers and their acquisition of Coral created a perfect symbiosis between the local expertise and licences on the one hand and H Essers' extensive knowledge of customers, systems and processes on the other," says Joachim Giesler, director of warehousing EMEA at Ecolab. "Thanks to their customised approach, the integration went very smoothly and it allowed us to take a major step into southern Europe, practically risk-free." ■

Albatross Tank-Leasing launch newbuild programme

Albatross Tank-Leasing has launched what it calls an "extensive newbuild programme" for 2022, with the first batch of 26-m³ tanks already in production.

The new tanks will feature extra corrosion allowance, enlarged steam heating capacity with 12



runs connected to a heatable bottom outlet flange, full walkway coverage, lids on the compartments and collapsible handrail to ensure that tanks will meet customer requirements for safe handling and operation. The configuration of four horizontal pads in the rear compartment means the tanks can be adapted to most of the loading and discharging requirements

to offer a very flexible solution for actual and potential demand without excessive and time-consuming rework. The tanks will be available ex-works in China by the end of the year and from the Rotterdam depot from February. ■





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Expanding worldwide

The cotac group has almost doubled its service sites for cleaning, workshop and depot services from the previous seven branches in Germany, the Netherlands, Belgium and France to a total of 12 stations worldwide.

Since end of October last year, the provider also has additional sites at its disposal for comprehensive tank container services in the US, China, Thailand, Vietnam and Singapore.

By taking this step, cotac said it has established the provision of services in standardised high-level quality, safety, and security at central international logistics hubs and has become one of the leading service providers in this segment worldwide.

In the past few years, cotac has grown from being a regional provider into one of Europe's largest, offering the highest standards of service for tank cleaning, repair and depot services.

Its technical services for tank containers guarantee the smooth, safe and secure progress of liquid products logistics, and are an important part of the logistics chain.

cotac specialises in cleaning containers for chemical products, liquefied gases and food items. As a supplement to repairing tank containers, road tankers, intermediate bulk containers (IBCs) and mini pressure tanks (MPTs), its portfolio includes modifications as well as servicing and certifications.

With its historic roots in the strong European market, the cotac group is now expanding into regions of the world that are especially relevant for chemicals logistics, and are located close to central freight handling ports and logistics hubs. cotac's managing director Lars Nennhaus explained: "We support customers exactly where they ask for our portfolio of performances and services."

In concrete terms – the company invests in creating new sites wherever they are needed, and the infrastructure they require, either on its own or in close cooperation with selected partners.

"We can further optimise the customer supply chain by expanding our worldwide network," said Nennhaus, who added that cotac stands for "complete tank care" and takes his promise seriously. Around 700 expert employees worldwide provide reliable, quality-assured services relating to tank containers at cotec.

Safety, security and quality are especially important to the company, whose central headquarters is in Hamburg. Workforce training courses are a global standard, as are the analyses and internal know-how of product cleaning processes by cotac's chemicals experts. According to Nennhaus, all the cotac sites undergo regular internal and external audits.

He added that sustainability and environmentally conscious action were also the rule, in addition to integrity and commitment.

Company expansion

In Houston, US, the cotac site, with its services provided in the immediate vicinity of the international Port of Houston, adds an area of 130,000 m² with 600 tank container storage spaces, a workshop and 11 cleaning lines.

Additionally, a further 40,000 m² of depot area, with capacity for 5,000 tank container parking spaces, four workshops and 40 cleaning lines are being added in Asia.

All the sites have been established for many years and are being integrated into the cotac group's existing network. Altogether, the company now has at its disposal an

approximate area of 500,000 m² and 12,000 storage bays in its depots, and around 100 cleaning lines. This enables around 200,000 cleaning operations and 100,000 workshop orders to be carried out for cotac customers every year. Nennhaus concluded: "By enlarging the number of sites, we have completed another important step in our global expansion strategy. More projects are in the planning phase." ■

Lars Nennhaus,
managing director,
The cotac group.



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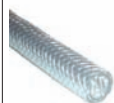
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The road to sustainability



Carbon footprint reduction is a declared sustainability target of the HOYER Group.

As well as modernising its fleet, the international logistics specialist is focusing on new drive systems with energy sources such as liquefied natural gas (LNG) and compressed natural gas (CNG), together with electric stacker truck fleets. HOYER is progressively expanding its fleet with LNG tractor units and CNG trucks. The firm currently has a total of 25 gas-powered trucks in use – 12 LNG and 13 CNG trucks – and the latest units were added in August.

The reason for expanding its fleet is the considerable interest by HOYER and its industrial customers in sustainable operations. A major aim of the company is the greatest possible CO2 footprint reduction in all logistics processes.

Transport fleet

Natural gas-fuelled trucks are currently used to transport gas and petroleum products.

The first unit was acquired in 2018, and other models have followed since then.

Anna Krüger, head of business development gas at HOYER, explained: "We want to expand this fleet even further. Our customers are also very interested in making progress together on the topic of sustainability."

"Reducing CO2 emissions concerns us all, which is why we also attempt to offer CNG, LNG or biofuel as alternatives wherever these are possible, sensible and available."

Compared to diesel, engines powered by LNG emit about 10-20% less CO2 emissions, and organic LNG reduces emissions by as much as 90%. However, the service station network for alternative energies, which has still not expanded to full coverage, currently impedes the use of these trucks,

although a further expansion of the organic LNG network is also expected in the near future. Steady improvements in the service station infrastructure, together with the toll exemption still applying in Germany, strengthen the trend towards fleet enlargement in this direction – in spite of significantly higher procurement and maintenance costs compared to diesel counterparts. Whereas LNG is used for highpower tractor units, the majority of the company's CNG trucks are transporters in the class up to 7.5 tonnes.

CNG is also a real option for short distances in heavy goods transport. A CNG tractor unit will be used for petroleum products logistics for short journeys in the Great Hamburg region.

Electrification

As well as gas-fuelled engines, HOYER also focuses on electrically-powered engines. Most of the logistics specialist's fleet of electric stackers are fitted with lithium ion (Li-ION) technology, and are used especially for on-site logistics. Li-ION technology eliminates costly, time-consuming battery changes, since these batteries can be given intermediate recharges, even during short work breaks.

Built-in Li-ION batteries have an average lifespan of 10 years.

HOYER is also watching developments in the use of hydrogen as an energy carrier, as procurement manager Johan Witteveen explained: "We expect that hydrogen-fuelled trucks will also play a part in future, since they operate without any emissions."

"What is not yet available, however, is their dangerous goods approval, which is essential for HOYER."

HOYER has a firm eye on the future and is already in discussions with relevant truck manufacturers today. ■

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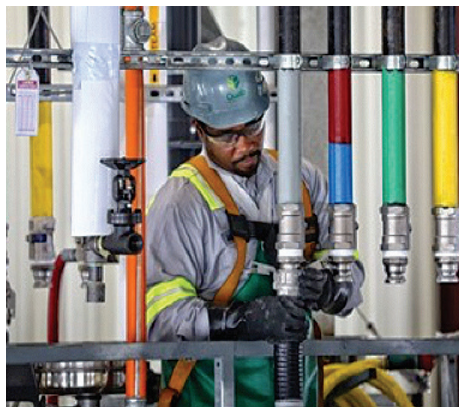
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Quala has expanded its network of tank cleaning stations in the US



Quala has expanded its network of tank cleaning stations in the US with the acquisition of three companies active in the Gulf and Midwest areas.

In December it acquired Haughton Environmental, which has a newly constructed cleaning station in

Shreveport, Louisiana for chemical tanks, frac tanks and box trailers, as well as commercial wastewater treatment. Quala now plans to expand the facility to offer tank trailer repair and maintenance and other industrial services.

The acquisition of San-Kleen adds three tank cleaning locations in Missouri and Kansas, largely servicing the regional foodgrade market. A more significant purchase is Tank Trailer Cleaning and AAA Trailer Services in East St Louis, Illinois, which has a large site offering foodgrade and chemical tank truck cleaning, tank container cleaning, and IBC cleaning and repair services. It also provides full-service tank trailer repair and maintenance services.

"We continuously look to support our mission by expanding our network and improving capabilities to service our customers," says Erik Leto, COO of Quala. ■



Niels G Stolt-Nielsen announces intention to step down from Stolt-Nielsen Ltd

Niels G Stolt-Nielsen has announced his intention to step down from his position as CEO of Stolt-Nielsen Ltd, which he has held since he succeeded his late father, Jacob Stolt-Nielsen, in 2000.

Once a replacement is appointed, Niels will assume the role of chairman of the board of directors, subject to shareholder approval, replacing Sam Cooperman, who will stay on as a board director.

"I joined Stolt-Nielsen in 1990 and have served as CEO since 2000," Niels Stolt-Nielsen says. "It has been a privilege to lead and work with talented and dedicated individuals throughout the organisation for so long. However, I feel now is the right time for me to step aside and let a fresh pair of hands take the company forward. I have dedicated my career to Stolt-Nielsen Ltd and will continue to do so in the future."

Stolt-Nielsen Ltd will announce its annual results for its 2021 financial year later today. ■

Nijman/Zeetank is nearing full delivery of new LNG-powered trucks & trailers

Nijman/Zeetank is nearing full delivery of a new set of LNG-powered trucks and LNG trailers for its road fleet in the Netherlands.

Deliveries have been delayed, the company notes, due to a lack of components but nine of the ten Volvo tractor units had arrived by the end of 2021 and the last in the order is scheduled to join the fleet in the first quarter.

"Nijman/Zeetank has been using LNG-powered tractor units since



mid-2020. In view of the limited emissions and generally positive experiences, LNG-powered tractor units have once again been chosen," the company says.

In addition, the company is this month due to take delivery of the last of 12 new LNG trailers. The double-walled trailers have a relatively high tare weight so a lot of attention has been paid during design and construction to minimise the weight while maximising volume. ■

Valve-valve-

BIP GROUP
PEROLO

Thierry
Bourguignon,
Managing Director,
Perolo

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Perolo's Managing Director Thierry Bourguignon tells Tankcontainer Magazine how it has successfully grown under its BIP umbrella while navigating the coronavirus crisis.

TCM: What is Perolo's history?

TB: Following the Armistice of World War I, Joseph Perolo bought premises in the suburbs of Paris and started Établissements J. PEROLO, a mechanical workshop for the automotive industry employing 15 people. In 1923, Établissements J. PEROLO became "PEROLO SA". The activity was oriented towards the manufacture of oil industry equipment and in 1980 Perolo developed a range of valves fitted for tank containers.

Perolo remained a family company until 1998 when UK-based Syltone Group bought the company from Claude Perolo. In 2005, Thierry Bourguignon conducted a management buy-out (MBO) with Pierre Surman and Perolo regained its independence. 100 years after Établissements J. PEROLO was created, BIP Perolo now employs over 200 employees and has two factories and six subsidiaries.

TCM: How did the company change after the MBO?

TB: 2005 marked a major turn in Perolo's business model and strategy. It regained its independence under the umbrella of the BIP group although this came at a cost. Perolo would stop manufacturing the whole range of aluminum equipment for the fuel transport and, instead, developed chemical and food grade stainless steel equipment for tank containers and road tankers (rail tank cars would follow in 2011). Perolo also had to expand its worldwide presence and offer a distribution network to meet its customers' needs.

TCM: What are the company's capabilities?

TB: BIP Perolo has three core values or capabilities: innovation, customer service and quality. R&D has evolved from a focus on automotive to petroleum equipment and, finally, to valves and fittings for tank containers, road tankers, rail cars and IBCs.

Continuous investment in both the French and the Chinese factories ensure modern equipment such as laser-cutting machines, robotic welding and CNC machining. It is this innovation - combined with the craftsmanship of the workforce - that makes BIP Perolo grow.

The second core value is customer service, which enables it to specialise both in standard mass-produced equipment and bespoke, limited series valves. This flexibility and versatility is rare in the industry. Customer service extends to after-sales service, which ensures the availability of spares.

This customer service can also be traced back to the third core value of BIP Perolo, namely quality. Only wanting to offer



Composite Tank with SRV and manlid

customers the very best quality, BIP Perolo's President Thierry Bourguignon took the decision in 2015 to invest in a lost wax foundry situated in Rudong, China. By doing so, the quality of the products is controlled in-house and is represented by a unique serial number.

TCM: What sectors does Perolo service?

TB: The main focus is the design and manufacture of the finest tank safety and fluid transfer equipment for oil, chemicals, powders, liquefied gas and foodstuffs. BIP Perolo is active in four different markets: tank containers, road tankers, rail tank cars and offshore/IBCs.

TCM: How extensive is the network of stock-holding distributors?

TB: In the transport industry, it is crucial to have world-wide stocks to give optimal customer service. Stock is held for strategic parts and spare parts in all subsidiaries (France, Belgium, UK, Poland, China and Singapore). Furthermore, key distributors also hold stock for their area (Tank Service for USA; Perolo Russia for Russia; Isotank Central for Turkey; Mulobatainer for India; Alfons Haar for South Africa).

TCM: Have there been recent additions to the distributor network?

TB: One of the latest distributors is Isotank Central, which became an official distributor in 2017. The company was founded by Adem Arslan who has more than 25 years of work experience in shipping and logistics sectors, with many years at Eurotainer and GAC. ➔



TCM: What are the overall trends?

TB: The overall trend in the tank container industry has been to reduce costs and weight. To achieve this, Perolo and our competitors have moved from fabricated products to castings. From basic castings we have developed lighter weight castings (less material equals less cost). Another topic is increased safety for the operators and Perolo developed, for all their top valves, an optional mechanical or pneumatic ground operation system.

TCM: Has the company been affected by any shortages?

TB: Luckily, we have an in-house foundry which ensures the availability of main components. For some outsourced components, we had to find and qualify alternative suppliers. However, distributing our finished products globally is still challenging with logistic partners overloaded. Brexit has complicated custom clearances and created congestion.

It definitely helps to be part of a group such as BIP that has a worldwide presence both from a point of view of supply chain and control over the production process. We can ensure a very fast delivery, even with the current shortages of some raw materials. The in-house foundry allows for entire control of the production process from raw material to the final quality control before shipment. The effects of the global pandemic mean that there is a huge advantage to being autonomous and not relying on too many suppliers or third parties.

TCM: What effect have raw material price increases had?

TB: Perolo, like others in the industry, has been challenged by rising steel prices since early 2021. While tank container pricing has gone up by over 40 per cent, Perolo managed to limit its price increases to around 10 per cent. Fortunately, we managed to optimise the production process, supply chain and our investments in new machinery but rising raw material prices remain a major challenge.

TCM: Approximately what percentage of a standard T11 tank container's cost is due to valves and fittings?

TB: Fittings account for approximately 8-15 per cent of a tank container's price, depending on the tank container specification.

TCM: What have been the innovations in the product portfolio?

TB: Innovations have focused on our tank container and rail tank car range. Some have been safety-driven, such as developing solutions for operating top valves from ground level to avoid working at height. Others have been customer-driven, as in our compact ball valve range or our high purity solutions. For rail tank cars, the major development in 2022 will be the launch of our hydraulic range.

Covid definitely was a challenge with the volume of tank containers dropping in China. However, our French production site was very busy throughout 2020 with rail tank car equipment.

Thierry Bourguignon, Managing Director, Perolo

TCM: In what situations are Halar/ECTFE-lined valves used?

TB: Halar valves are used for the transport of highly corrosive cargoes in both tank containers and road tankers. They are mainly fitted on lined tanks or tankers, or more recently on composite tank containers or road tankers.

TCM: What sort of products require high temperature valves and fittings?

TB: High temperature valves are mostly fitted on tank containers or tankers transporting products requiring high temperature transport, loading and discharge. If not maintained at high temperature, these cargoes - such as bitumen - risk solidification. Occasionally, the cargo may develop corrosive characteristics. Perolo also offers the option of steam heating on valves used for loading or unloading operations.

TCM: Where did most of the demand come from in 2021?

TB: Most demand came from the tank container market concentrated in China, which reached an all-time high for this range. The rail tank car range is still going strong mainly, in Europe and the Middle East.

TCM: How has the business been affected by Covid-19?

TB: Covid definitely was a challenge with the volume of tank containers dropping in China. However, our French production site was very busy throughout 2020 with rail tank car equipment. All the sanitary measures paid off because we had no major staff shortages in either factory. As for the market, we definitely noticed a strong rebound in the tank container market in China from December 2020 onwards.

TCM: What will be the lasting impact of Covid-19 on the business?

TB: The only impact we can see today is a general awareness of governments to value local industry. The French government made it a priority to make industrial jobs more attractive and took measures to re-industrialise the country, which supported our headquarters in France. ■

Biography

Always having dreamed of being his own boss in a technical environment, Thierry Bourguignon obtained his engineering degree from France's prestigious engineering school 'Arts et Métiers'. He started working in chemical factories while obtaining his business degree before eventually becoming the managing director of a production site of lubricants. He later directed the European operations of an American industrial electrical heating systems group.

Bourguignon subsequently became the general manager of Perolo, expanding Perolo's previously small commitment to stainless steel valves for chemical or food grade applications before conducting a management buy-out with Pierre Surman, Perolo's technical director at the time.



REVIEW OF THE YEAR

2021

Independent tank container market expert **Leslie McCune** reflects on an *extraordinary year* in which the industry prospered, despite the market turbulence.

Peter Drucker, the well-known and highly-respected Austrian-American business guru, wrote in his 'Landmarks of Tomorrow' book: "The greatest danger in times of turbulence is not the turbulence - it is to act with yesterday's logic."

2021 was definitely *not* a year in which the tank container industry managed the exceptional stresses and strains that were placed upon it by acting with 'yesterday's logic'. Under the operational pressures caused by the speed of the bounce-back in global economic activity in 2021, the tank container sector improvised, innovated and adopted new working practices and business models while investing in its future and maintaining its exceptional safety performance. Meanwhile, the sector's operational and financial resilience attracted new investors, demand was robust due to sustained chemical production and supply chain inefficiencies, and many had record financial results.

The market was a mess

However, below the headline generalities, the global tank container market was a mess. The coronavirus pandemic fractured many supply chains and exposed the frailty and lack of resilience in the chemical sector's own supply chain.

Demand for tank containers - and the ability to service them in a volatile market - was uncertain and far more unpredictable amid increasingly complex global logistics requirements. Managing inbound and outbound tank container flows proved hugely challenging due to load and discharge locations becoming more erratic as supply chains flexed to accommodate demand fluctuations. Inland hauliers prioritised payloads according to profitability while vessel rotations were unpredictable, leading to additional costs, not least for the storage of laden tank containers when sailings were arbitrarily cut or cargoes rolled. Longer tank container cycle times through ports, combined with dramatically higher ocean freight rates, caused repositioning costs for empty tank containers to balloon. ➔



Shipping bonanza

Covid-related labour shortages - combined with extreme weather events and the temporary blockage of the Suez Canal - disrupted ports, terminals and much of the global logistics infrastructure. This led, in turn, to protracted delays and equipment shortages, aggravated by shortages created elsewhere by vessels moving to busy trans-Pacific routes.

The black swan event of the pandemic coincided with a reduction in liner operators' capacity, a consequence of Hanjin's bankruptcy in 2017 and the loss of eight carriers as the industry consolidated following dismal profitability, a result of a decade of corporate mismanagement.

For ocean freight carriers, which had further reduced capacity in response to the dramatic fall off in demand at the start of the pandemic, 2021 was a profit bonanza. The twelve largest container shipping lines made profits of \$120 billion in 2021 compared with \$2.6 billion in 2016, despite terrible service. Skyrocketing freight rates led to record profits for market leader Maersk and the biggest profit in Danish corporate history - 2021 profits matched its combined profits from the past nine years. The three alliances - 2M (Maersk, HMM, MSC); Ocean Alliance (Cosco, CMA CGM, Evergreen, Orient Overseas Container Line) and The Alliance (Hapag-Lloyd, Yang Ming, Ocean Network Express) - enjoyed windfall profits.

Freight costs hit successive record highs, fuelled on certain routes by the seasonal demand for reefers, which 'crowded out' booking space for tank containers. Slot capacity became extremely tight, especially on Asia-Europe and Asia-North America trade routes, with ocean carriers introducing surcharges at short notice and often prioritising their own dry-box containers (so-called 'company-owned containers'), or those of their global network partners (Kuehne+Nagel, DHL, etc), over others.

Some importers paid \$10,000 to ensure their cargo was loaded onto a specific vessel. In April, India was desperate for 'name-your-own price' T75 tank containers for oxygen and Asian ports were reluctant to take back empty containers due to lack of space. Newly ordered dry-box carriers will not ease capacity until they enter service in 2023.

..... created problems for tank containers

Tank containers were often left behind at transshipment ports which, when combined with delays to ocean carrier schedules, raised concerns about the time-limited effectiveness of the inhibitors used to stabilise liquid chemical cargoes having the potential for dangerous runaway auto-polymerisation, a process that can generate large amounts of heat and pressure.

The lack of slots on container ships, and record high freight rates, made empty tank containers very costly to reposition. This resulted in much of the deep sea tank container fleet being out of position, damaging the much sought-after triangulation efficiencies that are a primary driver of a tank container operator's profitability. The poor economics of moving empty equipment to distant customers - and the operational difficulty of doing so - led to a sustained imbalance in the deep sea tank container market and artificially boosted demand in some regions. High freight rates from China to Europe made the initial movement of a new, unladen Chinese-made tank container very expensive especially, for example, for large 40' LNG units. This encouraged European tank containers buyers to focus more on specialist European equipment manufacturers such as Van Hool.

The greatest danger in times of turbulence is not the turbulence - it is to act with yesterday's logic

Peter Drucker,
Austrian-American business guru

Attractive market opportunities emerged

More positively, the fracturing of supply chains over the past two years demonstrated the value of the operational flexibility of tank containers due to their door-to-door convenience, flexibility to be re-directed to alternative discharge or load points and suitability for static storage, although their economic attractiveness was partly offset by dramatically higher freight charges and the lack of delivery reliability (both of which affected drum and flexibag alternatives).

At a time of acute cash management, tank containers improved the cash flow of many companies, enabling them to move from larger, less frequent, bulk shipment deliveries to the more frequent, smaller cash payments associated with tank container movements.

As part of a change in purchasing behaviour, 'just-in-case' storage - some of it in tank containers - was more widely considered, not least because some 'just-in-time' supply chains failed to be sufficiently resilient.

The pass-through of high ocean freight rates to customers boosted the revenues and margins of tank container operators, although higher costs were inevitably incurred by a myriad of operational inefficiencies and disruptions caused by the unreliability of the shipping lines. The unpredictable nature of these costs made it difficult for operators to factor them into the provisions they have to make for the lease contribution in costings. It also resulted in the average number of loads each tank container delivered in 2021 being substantially lower - at the global level, more tank containers were needed simply to move the same volume, putting pressure on the availability of equipment, increasing utilisation rates and constraining growth. Demurrage revenues were a healthy source of additional revenue for operators, while higher daily demurrage rates - together with fewer free days - incentivised the return of empty tank containers after discharge, generated higher margins per shipment.

Unfortunately, tank container players will continue to struggle to find slot space on container ships in 2022 - many shipping lines were reluctant to give 2022 prices for tank containers in the year-end tenders, leaving several operators and lessors uncomfortably exposed to the uncertainties of a volatile spot market.

More broadly, 2021 saw a continuation of the trend of more containerised liquid freight. Drewry claims that the tank container share of this market rose from 24% in 2011 (IBC 6%; drums 70%) to 33% in 2020 (IBC 18%; drums 49%). The increased penetration reflected the appeal of tank containers i.e. standardised and robust intermodal designs, durability, low technical obsolescence risk, cost effectiveness and safety. This has driven fleet growth to record highs and helped shipments surge 8.5% to an all-time high in 2021 at Stolt Tank Containers, the leading operator.

ITCO global fleet survey

ITCO's global fleet survey reported 53,285 tank container new builds in 2021, the third-highest total ever, behind the record 59,700 new builds in 2018 and 54,650 in 2019.

The global fleet grew 7.3% to a record high of 736,935 in 2021, compared with growth of 5.3% in 2020. However, the growth would have been partly attributable to supply chain disruptions which resulted in more tank containers being needed per tonne of product moved (a consequence of equipment being out of place, too costly to reposition or stranded due to the unavailability of slots).

Lessor fleet growth was weak at 2% with private equity-backed CS Leasing having the greatest increase (5,420) while the owned or leased operator fleet was up 10.6% with China Railways reporting the largest increase (4,300). Bulkhaul and NewPort had no net fleet growth.

Approximately 80% of the fleet is 'maritime' with the remainder being swap bodies for land use - these have a particularly high growth rate in China.

All regions are experiencing robust demand, with US depots having no spare capacity due to especially strong US imports. Europe is the most balanced region.

Scrappage rates, especially among lessors, had increased as new build tank prices collapsed in 2020, making it more cost effective to buy new assets than proceed with costly repairs to old ones. The higher demand, continuing imbalances and significantly higher tank container prices in 2021 led to much reduced scrappage rates.

Tank container prices

By the end of 2021, prices for standard T11 tank containers had escalated from a low of \$12,500 in 2020 to close to \$21,000 with the rate of increase - as for reefers - slowing in line with the price of steel. 316L stainless steel accounts for a third of tank container raw material costs with nickel accounting for over 40% of the price of stainless steel. Nickel - a key ingredient in the transition to electric vehicles and net-zero emissions - increased 55% in the past twelve months to a 10-year high. Russia accounts for 6% of global supply and supplies are running low due to underinvestment in the global mining sector and growing demand for base metals.

Nickel can therefore be used by tank container manufacturers as an effective hedge against future increases in stainless steel, a market in which they are price-takers. Tank container manufacturers such as CIMC will, of course, have greater purchasing power than other tank manufacturers due to their large scale purchasing of steel for other fabricating business within the group.

Stainless steel prices fluctuated significantly in 2021 - China's power crisis caused month-on-month stainless steel output to plummet by 21% in September, causing stainless steel prices to



surge, but restrictions to conserve power were eased in late September in Jiangsu and Fujian, two key stainless-producing provinces. However, although two-thirds of global nickel production is used for stainless steel, it is also an essential component in many lithium-ion batteries. The accelerating adoption of electric vehicles will tighten the availability of nickel and put upward pressure on tank container prices in the longer term.

Per diems

Higher costs, and the prospect of higher interest rates, fed through into increased per diem lease rates, which bottomed at \$3 in 2020 but which are now around \$7 (better reflecting the risk/reward expectations of investors). Consolidation among lessors in April 2021 usefully removed one of the persistent sources of unsustainably low rate lease rates.

Other trends

Digitisation remains a critical success factor for tank container players, many of whom are conservative and still rely on conventional server systems rather than cloud processing. However, wide-ranging investments continue across the sector and, as the TT Club notes, in a world that is increasingly digitised, there are considerable opportunities to add rigour to the way in which information, instructions, document flows and big data are captured, communicated and used by stakeholders.

Hoyer is notable as an early adopter of the potential of the Internet of Things (IoT), backing up its vision with early investment in, for example, the fleet-wide introduction of IMT's wireless, sensor-based telematics. More broadly, linking GPS tracking systems to transport management systems is now a critical success factor for operators. In terms of cargo shippers (aka 'consignors') BASF remained by far the largest chemical producer in the world in 2021 and, in terms of European logistics at least, is one of the most open to new ideas and the use of the IoT to improve intermodal visibility. At the day-to-day level, data connectivity and integration with customers are the industry's priorities.

Other trends include a move to containerised chemical shipping, diversification away from a reliance on single-sourcing to multiple-sourcing (requiring more tank containers), top level involvement of supply chain management in corporate decision making, and more regional supply chains. Suttons, for example, established a dedicated short sea container fleet for Asia to help ease the shortage of shipping capacity by creating dedicated shipping loops to assure continuity of supply. They noted that forging new supply chain links quickly - and without any cost penalty - has been impossible for many chemical companies, encouraging some to de-globalise and concede the cost savings of a globalised supply and/or distribution strategy.

De-globalising implies the use of fewer tank containers (albeit with higher utilisation) and more competition for deep sea operators from regional providers. To guarantee supply, some chemical producers - such as US-based specialty producer SMC - have reversed their outsourcing strategy and invested in their own tank container fleet for their internal logistics team to manage.

New business models were developed in 2021, with more vertical integration. Shipping lines and carriers are evaluating logistics services at a time when producers are partnering more with freight forwarders and carriers rather than relying on constant tendering. ➔



Asia Pacific remains the strategic priority for chemical logistics - over 40% of market leader Stolt's 140,395 global shipments (a 10-year record annual increase of 8.5%) originated in Asia in 2021. All the deep sea operators are strengthening their intra-Asia capabilities as part of a one-stop deep sea global service offering.

There was high growth in China for large-capacity swap body tank containers, which offer the lowest possible tare weight. Raffles were among many expanding their swap body fleet.

The global tank container cleaning, maintenance and repair infrastructure lags the market, especially in Asia, where there were some closures in China on environmental grounds. Lack of cleaning facilities after discharge may prevent a return load, creating equipment imbalances that can lead to costly empty repositioning movements.

Leased tank containers had, in general, more features including V-shaped baffles (baffles enable higher specific gravity products to be moved), extra corrosion allowance, insulation heating coils and additional safety features. From a small base, 2021 saw more use of fibre-reinforced tank container components and composite tank containers - typically 40% lighter than steel - can now carry a wider portfolio of corrosive chemicals. Lower tare weights allow them to carry higher payloads and many have specialised valves and fittings.

LNG storage and transport in T75 cryogenic tanks showed high growth in 2021, especially in Asia. LNG is increasingly used as fuel for heavy goods vehicles, with new filling hubs and marine bunkering stations needing replenishing.

ITCO picked up on today's zeitgeist, noting that beneficial cargo owners (i.e. the producers of chemicals, liquid foods and drinks) are increasingly active implementing environmental initiatives throughout the transport chain as part of their commitment to sustainability. Among the operators, Bertschi - with its more pronounced involvement with rail - seems well-positioned to offer sustainable intermodal chemical logistics transport and is ahead of the European Union's Green Deal plan, which aims for a 90% reduction in greenhouse gases from transport in 2050. Door-to-door transport chains with zero carbon dioxide emissions will eventually be possible, offering climate-neutral logistics as an added-value proposition.

M&A

GATX completed their acquisition of Trifleet Leasing at the end of 2020 on an 11.3 EBITDA multiple. This coincided with the low point of the tank container market, making the timing of the acquisition near-perfect.

Early 2021 saw European infrastructure fund manager Arcus take a majority stake in lessor Peacock, which had 7,500 standard and more specialised tank containers. This was followed in spring by the acquisition by Arcus-backed Peacock of GEM, with its portfolio of 9,000 tank containers and associated financial and operating leases.

The sale of Ermewa, which included Eurotainer and Raffles tank container leasing businesses as well as major rail interests, was completed, at last, by SNCF, the French rail conglomerate, in October 2021 for \$3.6 billion. Five institutional players were short-listed with asset-manager DWS Group and Canadian investment group, Caisse de dépôt et placement du Québec (CDPQ) selected.

Away from the lessors, there was corporate developments among the tank container operators. Den Hartogh merged its operations with MUTO in Korea, Malaysia and Thailand at the end of the year as part of a move towards fulfilling its ambition to be a leading intra-regional and deep sea tank container operator in Asia Pacific, where chemical demand is developing in line with the growth in middle-class consumers in NE and SE Asia. MUTO has a fleet of 2,500 tank containers.

Deutsche Post DHL Group's \$1.7 billion announcement of its acquisition of JF Hillebrand in August combines the world's largest logistics company with the ocean freight forwarder and beverage specialist. Hillebrand had eliminated its main competitor - Braid Logistics - when it acquired the non-hazardous bulk liquids and beverages logistics company in 2020.

In December, port operator PSA International agreed to acquire privately-held BDP International, a 4PL (Fourth Party Logistics) player, from private equity firm Greenbriar Equity Group.

Tank container outlook

Growth, greater investment, consolidation and higher costs. At a time when we crave certainty, those tank container players best able to navigate uncertainty will prosper. ■

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Own, lease or use an operator?

Is it best for a major chemical producer to own their tank containers, lease them in, or outsource the responsibility for moving their products to a tank container operator? Leslie McCune, an independent tank container market expert, considers the situations when producers may prefer

to lease tank containers.

Chemicals are the fastest growing component of the crude oil barrel and there is a bankable certainty that the global tank container market will continue to expand as demand for chemicals continues to grow at a 1-2 per cent premium to GDP growth, as it has for decades. More specifically, small lot size specialty liquid chemicals - which are highly dependent on tank containers for their global distribution - will continue to grow at higher rates than larger volume, commodity chemicals, which rely more on chemical parcel and product tankers for worldwide delivery.

Large chemical 'shippers' like Dow - which has an annual global demand for approximately 25,000 tank containers of which half are 'specials' - have a wide range of options available to them to meet their tank container needs. These include owning and managing tank container assets themselves, leasing-in equipment and managing it themselves, or using a third-party tank container operator to fulfil their needs. Often, a mixture of these different alternatives is deployed, reflecting the multiplicity of chemical and food/drink grade cargoes being moved, the complexity of the movements themselves, the operational preferences of the shipper and the shipper's financial position. Over time, the split between ownership, the use of leased equipment and out-sourcing to a tank container operator will change. ➔





Sadara complex, Jubail, Saudi Arabia



Beyond the driver of chemical demand, tank container demand will also be stimulated by the preferential resourcing of intermodal trade due to the cost, safety and environmental benefits of intermodal transport.

Tank containers are one of the primary beneficiaries of this modal shift, not least because of their ability to offer flexible transport and storage options at a time of rapidly changing supply chains. In addition, increasing safety and environmental concerns about the use of single use flexi-bags for the transport of non-hazardous products continues to create new demand at the margins for tank containers.

Why own?

The number of tank containers owned by chemical producers (aka 'consignors' or 'shippers') accounts for a small percentage of the global fleet, although there is no authoritative data on precise numbers due to the size and diversity of cargo shippers. However, ITCO notes that "shipper-owned fleets are not considered to be growing significantly due to the trend to outsource logistics to operators".

Chemical shippers may prefer to invest in their own tank containers where their product movements are routine, substantial and require very specific fittings, last cargo requirements and/or tank container types. These sorts of movements are frequently global and carry intermediate chemicals between production sites within the same group. Alternatively, petrochemical majors may rely on the high levels of logistics support offered by operators, or lease-in tank containers and use their own network of third-party transport providers.

Specialised tank containers often need to be used due to a product's hazard class or physical characteristics. Helium - one of the world's most valuable air gases - is an extreme example. The major helium suppliers include Linde/Praxair, Air Liquide, Iwatani and Air Products, which owns its helium tank containers. The two largest manufacturers of T75 cryogenic helium tanks are US-based Gardner and Linde, with the price of a 40' helium tank container in the region of \$1 million (compared with today's price of \$21,000 for a standard T11).

Major tank container users such as specialty chemical producers Dow and MDI/TDI producer Covestro own around 50 per cent of their deep sea tank container fleet but ownership is capital-intensive and increases asset risk as it exposes a shipper more completely to tank container price volatility. Last year, standard T11 tank container prices escalated from \$17,000 in Q2 to over \$20,000 by the end of Q4 after bottoming at \$12,500 in the spring of 2020. Dramatic as that seems, it merely brings today's prices back towards the \$24,000 of a decade ago. Price rises are now being driven by continuing strong demand and raw material increases so those who bought when prices collapsed in 2020 are enjoying the upside of rising asset prices.

However, ownership of tank containers has other financial implications since the assets must be capitalised and depreciated on the balance sheet while leased-in equipment is treated instead as a tax-deductible, ongoing operating expense in the P&L/income statement.

The feasibility of a shipper of chemical and food grade products buying their own tank container assets, rather than using an operator, partly depends on how urgently the equipment is

needed. Despite tank container manufacturers now working at full capacity, order times are long, particularly for more expensive specials which can be given a lower priority due to their slower manufacturing line speed. Mild steel T50 gas tanks have a waiting list of over six months at some manufacturers.

The need to ensure continuity of tank container supply has become an important driver of equipment ownership when moving critical chemical raw materials. US-based SMC, for example, recently invested in a tank container fleet to move specialty solvents to their paint customers.

Ownership has other implications, boosting a company's operating leverage but also increasing a company's risk profile. It also firmly places the risk of technical obsolescence with the owner. Size, as much as age, renders tank containers obsolescent - standard tank containers volumes have increased from 21m³ to 26m³ over the years while baffles are far more commonly incorporated. Swap bodies have similarly increased, from 30m³ to 35m³.

Lease or outsource to an operator?

Chemical producers are viewed by both operators and lessors as the most attractive type of customer due to their very low credit risk, substantial and predictable volumes, and very high customer retention rates.

For most producers, the fundamental question is whether to use leased tank containers or to outsource their requirements to specialist third party tank container operators. Some chemical companies have explored leasing directly, bypassing the operator and more flexible leasing contract terms and conditions have recently made this more attractive. Typically, these companies have the in-house capability to tender for equipment and can manage the supporting transport requirements.

Leased tank containers allow for a more rapid updating of the fleet of a shipper (or operator), enabling them to incorporate the latest technical configurations. New, lightweight structural designs, for example, now feature in many leased fleets and deliver higher payloads compared to conventional designs.

Less polarised 'lessor-vs-operator' business models have also been developed, with the more capable tank container operators offering leasing, fleet management and advisory services.

When do cargo shippers prefer to lease?

Shippers often prefer to lease tank container assets in the following situations:

1. Dedicated and relatively constant flows of product

Chemicals such as hydrogen peroxide are carried in dedicated tank containers because the product reacts violently with any residual organic matter, generating heat and gas. The gas generation quickly leads to a build-up of pressure in the vessel (one reason why a 350mm bursting disc is required).

Corrosive products often require specific tank container linings and can be difficult to clean. Chlorides, for example, react with water to form hydrochloric acid, although tank containers moving hydrochloric acid are rarely washed as dedicated rubber and FRP-lined units are used.



T11 Tank Container



shipper-owned fleets are not considered to be growing significantly due to the trend to outsource logistics to operators ITCO

These lining materials can be heat-sensitive so only cold water rinses are used.

Dedicated tank containers are frequently used when there are extensive prior cargo restrictions or when there can be no risk of contamination. Food movements in tank containers should, of course, never have chemicals as a last cargo.

2. High operator demurrage

Tank container operators can charge demurrage at more than three times the daily rental rate, providing a valuable source of easy profitability. However, there can be consequential costs for the operator as retained equipment can disrupt the important triangulation routings that drive fleet utilisation, and therefore profitability, especially for deep sea operators. Santos, Brazil and Dammam, Saudi Arabia, have, for example, been notoriously high-demurrage destinations due to poor port operations.

Demurrage charges have increased, and the number of 'free days' reduced, as the port loading and discharge chaos over the past year led to delayed or missed loadings. Higher charges have created a greater financial incentive to return tank containers promptly. Fleet utilisations increased in 2021 as assets became stranded at ports as tank containers were cut or rolled by ocean carriers. Persistently high demurrage invoices from operators inevitably encourage shippers to consider using their own, or leased-in, assets rather than using the services of an operator.

3. High volume distribution networks

Leasing may be preferred if a global chemical shipper has many backhaul opportunities. Typically, this occurs where there are large volumes of specialty chemicals being moved between several production sites.

Not all tank container operators can meet the needs of truly global, large scale chemical shippers although for those that can - the deep sea operators with a minimum fleet size of 20,000 units - the cost of a global service capability can be lower fleet utilisation. This is due to excess stock being needed in each major region, not least because the cost of repositioning an empty tank container from, say, the US to the Middle East can compromise its lifetime financial returns.

4. Large volume, internal movements

Leased tank containers - especially high volume swap bodies - are commonly used for internal movements within large, integrated petrochemical production complexes. The giant Sadara complex in Jubail, Saudi Arabia typically has 50,000 tank container or swap body movements a year to the adjacent Sabtank storage facility, from which 1 million tonnes of specialty chemicals are exported.

BASF's Verbund concept integrates production plants, energy, material flows and logistics. Its six Verbund sites (being expanded to a seventh at Zhanjiang, Guangdong) includes Ludwigshafen, the world's largest chemical complex owned by a single company. BASF pioneered the use of the innovative 75m³ BASF Class Tank Container (B-TC) with the Belgian commercial vehicle manufacturer Van Hool. Two and a half times larger than conventional tank containers, the 6-high stackable B-TCs are replacing rail tank cars for internal movements.

Elsewhere, tank containers have replaced rail tank cars for the internal movement of, for example, hydrochloric acid.

5. Choice of transporters

Shippers may choose the leasing model when they want their own equipment - either owned or leased-in - but want to choose the transport service provider themselves. Operators, in contrast, offer the convenience of a one-stop-shop for the entire movement.

6. Prior cargo restrictions

Leasing may be useful where there is an extremely limited number of approved last cargoes. Although virtually any conceivable type of cargo can be cleaned, the cleaning facilities may not be available, or sufficiently competent, at the point of discharge.

The TT Club cautions that cargoes can change composition if air or humidity are introduced, especially following discharge - some tank containers are nitrogen padded to 0.01% oxygen after cleaning. In some regions, the cleaning water used contains sufficiently high levels of chlorine and/or impurities that it risks damaging the tank container.

Certain designs of tank container pose particular challenges for cleaning depots. Units fitted with surge/baffle plates, for example, have a greater surface area to clean due to the additional internal structure. Some of the more difficult cargoes to clean are not necessarily the most dangerous - seemingly innocuous cargoes, such as milk, can be as challenging as more obviously dirty cargoes such as inks and dyes.

7. No operator capability

Situations may occur when tank container operators may not be capable of offering a commercially feasible service. The Asia-North America trade route, for example, is dominated by standard T11-type tank containers so, inevitably, there is a wide variety of tank container operators serving this route. However, although T11s are described as the 'standard', 'commodity' or 'generic' tank container type, they are not universally interchangeable due to their huge variety of sizes, baffle or surge plate configurations, valves and fittings.

In contrast, the North America-Europe route has a different portfolio of chemicals being shipped in tank containers and relies far more on specialised equipment. This is less widely available and may feature special coatings, claddings and the use of higher-quality steel.

Operators serving both these key trade routes may not have the capability for servicing more exotic cargoes or routes.

8. Strategically important site-to-site movements

Large chemical producers may use leased assets for strategically important site-to-site movements, especially those requiring tank container specials.

9. Less requirement for telematics

The direct leasing of equipment by shippers may be preferred when there is less need for the end-to-end visibility of movements or where the remote control of, say, cargo temperature is not required.

The recent development of telematics in the tank container industry is happening at pace and increasingly sophisticated products are being developed by the leading operators. ■

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The Suttons Group has broadened its global reach and capabilities through a major acquisition while remaining true to its focus on quality and safety.

This past New Year's Eve saw the UK-headquartered Suttons Group notching up a major milestone in its nearly 100-year history when its Suttons International arm completed the acquisition of the overseas operations of VTG Tanktainer, itself a subsidiary of German wagon hire and rail logistics giant VTG Aktiengesellschaft. In addition to VTG's entire overseas fleet of ISO tank containers, the deal also saw Suttons taking on all existing personnel and customer contracts.

The transaction also included VTG's interests in VTG-MissionLine Tanktainer do Brasil, a Brazilian joint venture with Argentina-based MissionLine Logistics that gives Suttons its first physical presence in the growing Latin American market. In the Asian market, VTG's Chinese joint venture, COSCO VTG Tanktainer, was outside the scope of the deal, although all parties concerned have expressed a commitment to fostering a three-way partnership to support the needs of current and future customers.

Blessings all round

While VTG will continue to operate its own European fleet of tank containers, the sale of its overseas operations represents a strategic move that will allow it to refocus its energies on global tank container leasing. In so doing, VTG hopes to benefit from what it describes as "growing customer demand for integrated intermodal logistics solutions".

For Suttons, the benefits of the deal are arguably more apparent and immediate, broadening both its geographical footprint and logistical capabilities. "We have taken on over 5,000 tank containers and 70 employees spread across the globe," says John Sutton, Suttons Group CEO and managing director of Suttons International. "Most importantly, this acquisition gives us an established base in Central and South America, which was an area that was not core to Suttons."

"The deal positions Suttons into the top 10 tank container operators and adds more scale and global reach," he continues. "This allows us to further support our customers who require a global operation. It has also added offices in Brazil, Rotterdam and Hamburg, giving us a more local presence."

Global coverage

From its centre of operations in Cheshire, the family-owned firm now presides over a global network of offices, depots and facilities stretching from Scotland in the north to São Paulo in the south. But while this new deal has clearly widened the company's span, it would be wrong to think of Suttons as a newcomer to such international expansion. The company's North American operations, for instance, marked their 40th anniversary this past October.

The Stateside celebrations came shortly after Suttons further bolstered its existing business in Asia Pacific through the launch of its Asia Short Sea Initiative. A dedicated fleet of short sea tank containers that will only transit between the main regional markets of China, Singapore, Malaysia, Indonesia, Korea and Japan, this new initiative is itself a response to what Suttons sees as a shift towards more regionalised supply chains and blocs within the industry.

Encouragingly, the Asia Short Sea Initiative, which is slated for further fleet expansions, has already proven a boon to customers as its dedicated transport loops have helped to assure continuity of supply in an era marked by severe shipping disruptions. By shipping tanks on a round-trip basis from Japan to China and back, a number of key Japanese clients, the company reports, have been able to avoid unwanted plant shutdowns and the onerous costs and disturbances such inconveniences would have otherwise incurred.

Back in Britain, meanwhile, Suttons has also been keeping itself busy on its home turf, where it continues to develop and hone its business, operations and staff line-up, such as via the recent appointment of Chrisi Lloyd-Roberts as operations director for its road tanker business. "We have recently invested considerable sums upgrading our wash bay in Widnes," Sutton adds. "We now are operating a high pressure cleaning station at 100 bar, which can cope with some of the more difficult cleans."

Expertise and knowhow

A highly innovative company that, among other things, pioneered the use of electrically-heated tank containers back



in the 1970s, Suttons can furnish customers with a broad range of services to meet their specific needs, whether in terms of spot hire, contract logistics or full supply chain management. Similarly able to handle a wide raft of regulated and non-regulated products, Suttons continually invests in its fleet of tank containers, which, in addition to standard designs, includes highly specialised and bespoke systems, such as lined units for particularly demanding product types as well as gas tanks, reefer tanks and super-insulated tanks.

"Suttons Group is focussed on the transportation of chemicals, gases and fuels on a global basis. Whilst the acquisition of VTG increases our fleet size, Suttons focusses on the more specialised end of the market. We have one of the largest fleets of baffle tanks, which allows us to carry heavier products, and we have a strong technical team that enables us to offer non-standard ISO tanks," Sutton says.

Meeting the challenge

"Most of our customers are global manufacturers of chemicals and their demand patterns have not significantly changed recently," he reveals, noting that even in the face of a global pandemic they "continue to ship chemicals all around the world". Nevertheless, Covid-19, he continues, has had "a fundamental impact" on the company's business. "The ability to travel and to meet with customers and employees has been restricted, and those restrictions remain in place in many countries. Remote working and socially distanced working have changed the way we approach our day-to-day," Sutton explains. In turn, all this has meant the company has had to become ever more flexible on an operational basis.

Despite all the restrictions and disruptions, though, the market for tank container logistics "is buoyant with demand at high levels". Not that it's all plain sailing, though, with Sutton identifying "a lot of challenges" facing all players along the global supply chain. "The biggest challenge is still the well-publicised shipping disruption which continues to create delays and additional costs," he says, noting that trucking and depot services are not only "in particularly short supply in the US, but also in Europe". What's more, the additional workload borne by these challenges "has created a shortage of skilled people leading to further cost increases".

Safety first

Whatever the state of the world, though, one perennial challenge for any company involved in the transport and handling of

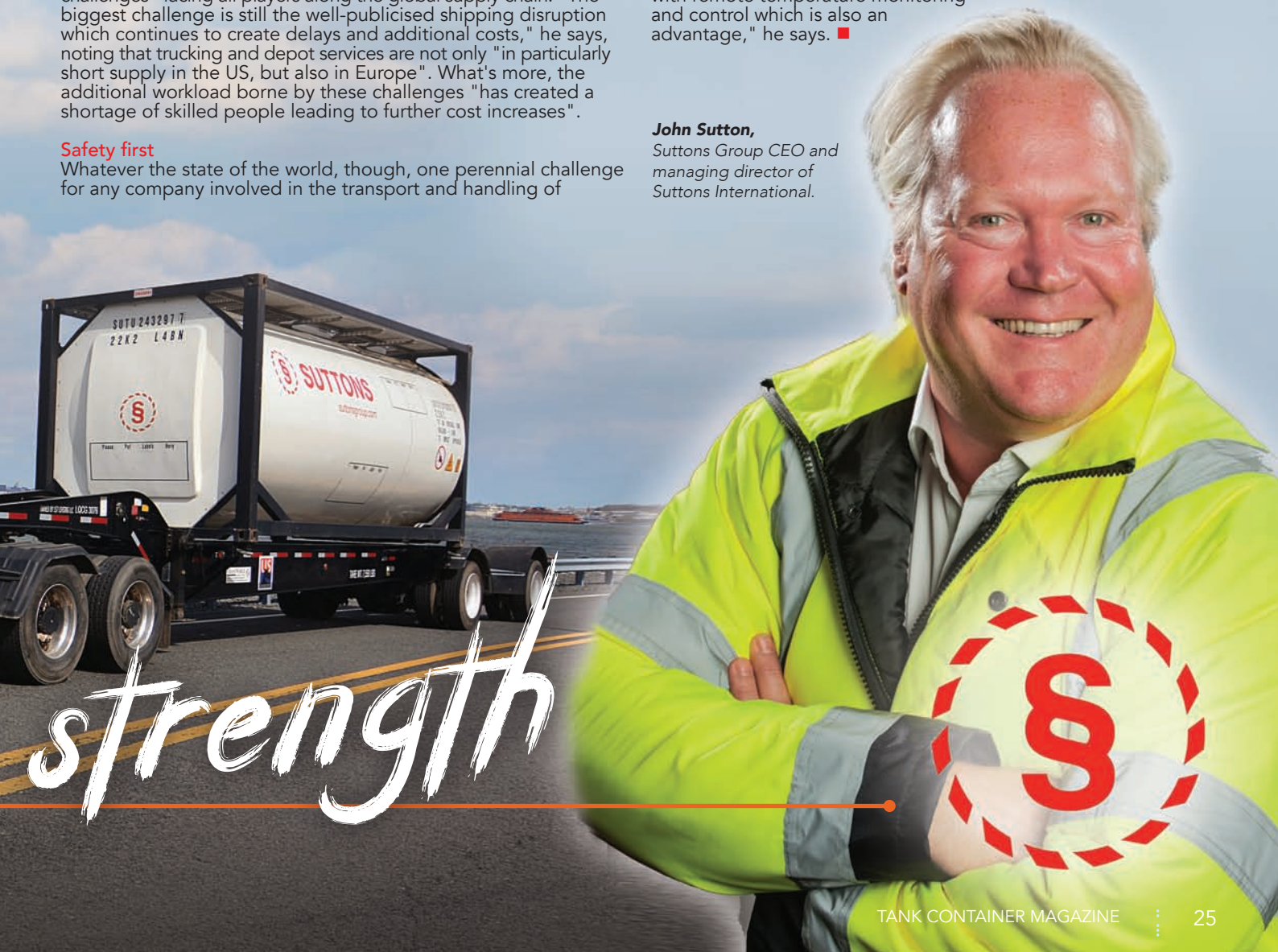
dangerous goods is, of course, safety, something that Suttons takes very seriously and which underpins all its operations regardless of geography. For example, in addition to fostering a company-wide culture of safety through, inter alia, ongoing training and refresher courses for its staff, the Suttons Group also maintains its own fully trained and equipped emergency response teams, with Suttons International also operating a multilingual level one response system.

The company is also keen to share its knowledge of matters relating to safety, health, the environment and quality (SHEQ) with its customers through a range of initiatives. At its Cheshire headquarters, for example, the company has constructed what it describes as "an interactive tank container" that customers can safely enter and climb over to familiarise themselves with the realities of these units, the technologies employed and their potential hazards.

"SHEQ is at the centre of everything we do," Sutton states. "One of our core values is Safety First and everyone in our organisation is authorised to stop the job if they perceive it to be unsafe." Likewise, he continues, all subcontractors are fully audited and assessed, with Suttons also maintaining "a global system for reporting and tracking any incidents" should they occur.

And on the subject of tracking, Sutton reports that in the context of ongoing digitalisation, the company is currently trialling a number of satellite tracking systems in order to appraise their effectiveness. "Whilst having GPS tracking on ISO tanks should be a benefit, the reality is that we already know where our tanks are. They are either in a depot, a customer site or on a vehicle which normally has GPS or they are on a ship," he says, explaining that GPS tracking "will be truly effective" once it can be linked up with the company's transport management system (TMS) for live updates. "We also operate a large fleet of electrically heated or cooled tanks. Most of this fleet is equipped with remote temperature monitoring and control which is also an advantage," he says. ■

John Sutton,
Suttons Group CEO and
managing director of
Suttons International.





MRI's customer-centric ethic pays dividends

The pandemic has taken a formidable toll on logistics companies and their staff over the past two years but, nevertheless, there have been some positives to come out of the lockdown restrictions. One of these is that enforced remote working has accelerated the drive towards digitalisation in the supply chain.

Since its re-branding in 2019 MRI Intermodal Software (previously RAM Intermodal Software) has achieved impressive growth but, in the eyes, of its staff, MRI's loyal portfolio of tank container customers are the real stars. The company truly values the long-term partnerships it enjoys with its clients.

Sustained growth is vital to any business, but MRI's first priority is to support its existing client base and ensure that its customers continue to gain the maximum benefit from their operating software.

Some say that great customer service in today's logistics sectors is sadly lacking, but MRI General Manager, Ian Rawlings, stresses the importance that MRI puts on building strong relationships with clients. "We are in constant touch with our customers and we are always ready to adapt to new amendments or bolt-on requests that they may have," explained Rawlings.

"This could involve, for example, a last minute amendment to the client's programme to incorporate a brand new surcharge type that has been announced by a carrier," says Rawlings, explaining that this has become a common request as carriers have become more imaginative with their surcharges.

Challenging times

Despite the challenges of the past two years, and the enforced working from home during Covid lockdowns, it has been very much "business as usual" for MRI, according to long-serving marketing director, Nicola Byers. "A lot of our clients are based in other territories, so remote working with our customers was nothing new," explains Byers. "All of the systems and processes were already in place to manage the business and ensure that everything ran smoothly," she adds.

Nonetheless, it has been a very challenging time for those involved in tank container operations; global freight rates have sky-rocketed since the start of the pandemic and securing space on vessels has become a daily headache for shippers.

Moreover, the fragmented supply chain, port and landside congestion, and haulage shortages have all conspired to significantly lengthen the tank container cycle. And controlling those valuable assets in such a volatile transport market, in the midst of a pandemic, has increased the level of difficulty significantly.

M&S Logistics - no compromise on quality

To survive the market volatility, tank container operators have been obliged to ramp up their fleet management systems and improve their cost management efficiency. During the pandemic M&S Logistics, a long-term client, called on MRI to help it to support its Working-From-Home staff around the world via the cloud-hosting MRI SaaS platform solution.

MRI's engineers designed the SaaS platform specifically for M&S Logistics "from the ground up" and - over a year and a half in - the bulk liquid transport and services provider says it has seen "clear improvements" in the speed, performance and security of its operating software.

With its tailor-made cloud model performing perfectly, M&S Logistics is looking at adding further value with a series of bolt-on tools and interfaces to its other systems. This could include interfaces to customer portals as well as to partner platforms. "Visibility is the key to effective tank fleet capacity utilisation," says Rawlings. "For example, Monitor4000 has a comprehensive functionality, along with its EDI and API interfaces, that gives better visibility and control to the business," he adds. "The wealth of data that the system provides allows businesses to obtain the intelligence required to make informed decisions on routes, pricing and utilisation," he says.

Peacock integrates GEM

Another satisfied client is tank container lessor Peacock Container Holding, who turned to the MRI consultants to assist it with the integration of 9,000 units following its acquisition of fellow tank lessor GEM Containers. Fortunately, both Peacock and GEM were existing clients of MRI and were using its Rental4000 tank leasing systems.

The task, and not least the five week timeframe for completion, were both ambitious and challenging, but according to Peacock's managing director, Jesse Vermeijden, MRI's consultants are "among the very best in their field so the tight deadline was not unduly worrying".

Peacock is one of the six largest tank container lessors globally but there are nonetheless many SMEs in the MRI client list. "Our customer base is wide ranging and diverse," says Byers. "We have customers with as few as ten tanks and some with over 35,000 units," she adds.

The portfolio of clients serves the needs of all of the liquid transportation sectors, including both chemical and food grade transportation. Importantly MRI does not see the need to exclude the smaller players from their marketing. "The small operators in the sector can grow very fast and we get a great deal of satisfaction from seeing our clients develop and prosper," says Rawlings.

Still using spreadsheets?

"There are a few tank container operators that still use old manual T-card systems, and some that rely on spreadsheets to run their tank control operations, but these largely manual systems can very easily get overwhelmed, particularly when things don't go to plan," he adds.

For a potential new customer MRI will firstly spend time to understand the company's business, including its geographical spread and the number of people and offices. Next up will be time spent on getting to grips with the prospect's current IT systems and what challenges are faced.

"A reliable billing capability with the required configurability is the key output of any operations software," states Byers, explaining that MRI allocates more time to understand the prospect's status on this. The business' ability to interface with the systems of their trading partners and customers is a key requirement, as is how it integrates its tank operating system with its accounting systems; MRI strives to find out what works and doesn't work in its analysis.

However, having a great tank container software product is not enough on its own, agree the MRI managers. "It has to be deployed within the committed time and the users should be put in a position to able to use the software with ease from the start," says Byers. "We emphasise a well-structured and seasoned approach towards achieving GO LIVE within the stipulated time," she adds.

According to ITCO, the global tank container fleet had reached 686,650 units by 2021, having grown by 5.3% on the previous year, and the number of tank containers has doubled over the past decade as shippers have recognised the security and safety advantages of using the stainless steel tank containers to transport petrochemicals, polymer resins and many other liquid commodities.

The total number of tank containers in circulation is expected to return to the pre-pandemic growth rate of around 8% when last year's numbers are audited.

Demand for newbuild tank containers is high but, with Chinese manufactures being overwhelmed with orders from ocean carriers and lessors for standard and reefer boxes, lead times are long. Unsurprisingly, new build tank container prices have gone through the roof, with the average cost of a newbuild 20' tank container almost doubling to around \$22,000.

Eagletainer on board

The newest recruit to the MRI team is sales director Farhadh Ali Syed, a vastly experienced software products professional. Syed has been with the company for just over six months, but his passion for the MRI products is infectious. He says his confidence is grounded in knowing that the software he is selling is "unrivalled" in the tank container market place. Indeed, MRI is just celebrating its latest success - the signing of the Singapore-headquartered tank container operator Eagletainer to use its Monitor4000 cloud solution software for its fleet of 11,000 tank containers.

Eagletainer is the world's tenth-largest tank container operator and a leading player in Asia.

Pre-pandemic, MRI saw considerable benefit in exhibiting at trade shows and industry events and the team cannot wait to get back on the road to show-case their products.

Notwithstanding MRI's claimed 'best-in-class' reputation for good communications, Byers and Rawlings agree that there is just no substitute for the opportunity at such shows for multiple face-to-face meetings with existing clients, as well as the opportunity to be able to show potential new customers live demonstrations of its software systems.

Byers says that she and her colleagues are "really looking forward" to MRI's next scheduled event at Intermodal Europe in Amsterdam later in the year and said she expects the company will attend other shows as the business world opens up again. ■



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- Headline international keynote speaker at CIMC Symposium
- Produced quarterly 'Middle East Tank Container Market Review'
- Founding Editor, *Tankcontainer Magazine*

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Gröninger Cleaning Systems: proud to be 75 years old

Gröninger Cleaning Systems, a worldwide designer, manufacturer and operator of innovative tank container cleaning systems is proud to be 75 years old this year, and to have achieved the full certifications from classification and branch organisations. With an eye to the future, the company focuses on the internal R&D generated from its own Gröninger Academy and offers 'green' tank container cleaning solutions.

Everyone seems to claim they have 'green' credentials but it takes considerable effort to make it genuinely happen. Gröninger Group Managing Director Henk Klein is committed to that effort and is the first to say that Dutch environmental regional legislator DCMR is "our great friend that sets the standards for water treatment and air purification". Friendliness and perseverance appear to be the collaborative tools used by the DCMR to achieve the required rules and regulations, from which everyone benefits.

However, in terms of having practice-driven and effective legislation and enforcement, Klein believes that Dutch legislation for the tank cleaning sector is 'light years ahead of the rest of the world'.

It is no surprise that Gröninger Cleaning Systems, which claims to be the tank cleaning sector's world market leader, focuses with 'green spectacles' when doing the job, with intense scrutiny paid to energy efficiency, water recycling and biodegradable chemicals.

Gröninger's innovative product line - GroClean - is a range of cleaning chemicals for use in food grade applications. It has been approved by the National Science Foundation (NSF) which certifies that the chemical products appearing on their list conform to the requirements of the NSF Biofood Compound Registration Program. The certification, which applies to the whole of the GroClean range, guarantees that the range complies with the highest standards of food safety cleaning.

Kosher cleaning of tank containers can also be offered and Gröninger is looking into the viability of offering halal cleaning services to meet possible market demand. ➔

Henk Klein,
Managing Director,
Gröninger Group





our great friend that sets the standards for water treatment and air purification

Henk Klein, Managing Director,
Gröninger Group

At work, Gröninger staff even use the recycled water - the golden ale beer served at the company's New Year's reception in Rotterdam, for example, was based on recycled GroClean-free water.

Purification, and attempting to work emission-free, is the name of the game. At Gröninger, it starts with creating an agreeable working place so gone is the old way of cleaning tank containers. The company's target is to operate fossil-free in 2035. One way to achieve this is for the company to develop new filter methods in their cleaning systems, and to supply and work with these themselves. Another way is to steam clean without any carbon dioxide emissions, and to investigate more environmentally friendly ways of providing services.

"Our installations are increasingly automated," says Klein, adding that remote working has become common practice at Gröninger. This is done in the Gröninger control room using Siemens PLC and dedicated Microsoft's Azure software, which provides a professional IT security system to connect safely to customer systems.

Apart from that, the daily practice involves predictive maintenance, performance monitoring, process control, big data, and cloud storage and visibility. "It all improves performance but also food transportation and labour safety as well," observes Klein.

All services are carried out together with professional, reliable partners. These include knowledge centres such as the TU Delft (Delft University of Technology) and the technical faculty of KU Leuven (Leuven University), which specialise in water purification and water processing technology. Classification organisations such as SQAS, GMP+ and Bureau Veritas all certify Gröninger Cleaning Systems equipment.

Services are rendered according to ATCN and the EFTCO Cleaning Document (ECD). The sector commonly accepts this document as proof that the tank container clean was carried out as the customer requested, at a high-quality level and complying with all legal, safety and environmental requirements (Gröninger always cleans a tank container according to the EFTCO definition of clean).

The company goes back a long way and started to offer tailor-made systems from scratch in 1947. Today, the oldest installations have been operational for 45 years, suggesting a long-term commitment to sustainability in manufacturing.

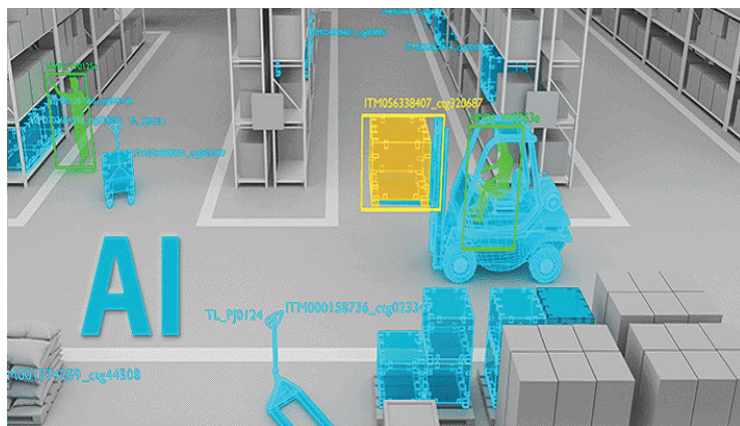
When asked about its market position, Klein says the company operates in a market niche where Gröninger is the market leader in terms of installations (250 cleaning stations have been constructed) and in terms of tank cleans per annum. The Group Managing Director concludes that it is one of the few tank cleaning companies that operates worldwide. The European market has some 600 tank cleaning stations and 450 are established in North America.

On its website, Gröninger proudly presents its team. There are about 60 operational workers in the Netherlands, 15 worldwide and several sub-contractors. The firm has had a growth spurt since 2018 when it established Gröninger Cleaning Systems Inc. in Houston, Texas and a counterpart in China. A branch office was also set up in Worms, Germany in 2020. The enterprise collaborates with local parties in each of these regions, enabling it to offer a complete solution.

Klein concludes: "It's a lot if we have lost a client after all those years. We all are dedicated to our jobs." ■



supplai chain intelligence



Short-staffed logistics companies looking for efficiency, cost reduction and improved services will be able to scale and grow their businesses with AI, reports Felicity Landon.

Forget the technical stuff, says Koen de Jong, CEO of supplai, a young company that develops artificial intelligence-based products for the supply chain and logistics industries. What is more important is to walk people through what artificial intelligence (AI) can actually do to improve their business. As far as tank container logistics are concerned, he is confident that AI can be transformative – cutting out massive document flows, providing accessible gate automation and enabling automatic damage detection, just for starters.

supplai, founded in May 2020 by Koen and CTO Casper van Lit, implements AI algorithms that make processes more efficient and effective. It is forging ahead with tailor-made AI solutions, and Koen's background means he understands the particular challenges of the tank container market.

The path to the creation of supplai, based in the Rotterdam area, was an interesting one. "I worked in the chemical business from 2008, starting with an internship at a local logistics company which is now one of our customers," he says. "I then did an internship at a chemical trading company, so I became well acquainted with moving bulk chemicals in tank containers – we were importing/exporting all over the world."

Random encounter sows the seeds

He became a shareholder at the age of 26, but ultimately the company was sold when he was 29. "It wasn't really on my horizon to stop being an entrepreneur," he says. Rather than setting up a venture in the chemical sector, he started to explore the potential of AI. Fate intervened when he found himself on a flight sitting next to a passenger who had his own AI company. "I talked to him for hours and understood I had the knowledge and ability to step into this new industry. It is like a new industrial revolution," he says.

He met the entrepreneurial AI expert Casper through a mutual friend; they had a few conversations and realised "he can make what I could think of – and he can sell what I could make".

supplai was launched and, despite the impact of COVID-19, quickly secured its first customers. The two partners moved full-time into offices in Ridderkerk in May 2021, and within eight months had a team of nine AI and machine learning specialists.

The company offers "an interesting way of doing business", he says. It is part of the Dutch AI Coalition, a public-private partnership committed to accelerating AI developments and connecting AI initiatives in the Netherlands. ➔



Koen de Jong, CEO of supplai



Casper van Lit, CTO of supplai

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Own liquidity is important

"We see a lot of our competitors focusing on one specific solution through a technology stack – so they see a problem and come up with a solution for it. Some are very niche, some are more generalist, but when they reach the boundaries of the Netherlands, they need to scale up and go European to sustain growth. Many of them start to rely on venture capital. But we don't want investors, we want to do good deals with customers through good solutions, completely using our own liquidity.

"We looked at this and said – a company has multiple challenges in order to digitise and AI can be a part of the solution for many of these problems. So why would we limit ourselves to developing one product from one technology stack if we have a network of customers that each has five use cases for us in the next five years where AI is part of the solution?"

AI delivers value

supplai's approach is to get to know the customer and how they work, understand their problems and find the right solution for each challenge, says Koen. "It is much more a value-creation process after you have done the first assignment, and in a market where AI is really hyped, people forget to talk about the actual value it can deliver."

Companies need tailored work, not generalist solutions, he says. Brainstorming sessions with customers can lead to several use cases and a longer-term relationship with a stable customer, "where we can grow and create value – and that is a win-win".

The number one challenge in the tank container world is the huge document flow that comes in everywhere, says Koen. "With the variety of suppliers and customers, there is a huge number of documents coming in and out constantly."

supplai's document flow automation solution uses a deep learning algorithm to read data from documents directly. This shortens lead times, reduces errors and eliminates an enormous amount of manual effort. The algorithm can be 'trained' to read (for example) vessel name, voyage number, container number, place from, place to, ETA, and so on. "We train the algorithm to detect these classes on PDFs and also semi-structured emails. It pulls incoming messages from the email box – bookings, delays, arrival notifications. We process this data with algorithms in the cloud and the output is offered in a structured format to the ERP system of the customer.

"This solution is now, on a real-time basis, eliminating the manual processing of about 80,000 documents a year for one customer."

Optical Character Recognition

supplai has also developed a gate automation system using AI and Optical Character Recognition (OCR). The system incorporates a high-quality Internet Protocol (IP) camera and uses AI to analyse each frame, recognising and classifying everything from container number to ISO code, and ultimately confirming that the tank container has the right signage/labelling. This not only reduces gate in/gate out time through automatic verification but also offers the potential for damage monitoring and detection.

"We update the algorithm all the time based on the data/experience collected," says Koen. "For example, it learned where to recognise a container number on a purple container, and we upgraded the

algorithm. As for damage, the video can be watched back to see if there has been any damage at that point. Because the camera gives multiple angles, frame by frame, you can do so much more."

As he points out, traditionally the driver has to get out of the cabin for document checks, "but if the pre-registration has been done, then the match can be made and the driver can stay in his cabin. This is about speed, higher throughput, eliminating congestion at the gates – the solution was developed for the tank container world but can be used in different fields. We also deploy this algorithm next to rail tracks to scan incoming trains in intermodal transport." supplai has been piloting a similar system for reach stackers, fitting the equipment with a camera to detect container number, taking a picture and pushing the information into the onboard computer. "It saves the driver 15 seconds per container. Some terminals are doing 300,000 containers a year, so that is a lot of saving, and it also removes the room for error of a manual system. The next step is cameras on cranes – this will involve retrofitting."

Automatic damage detection

Using the cameras for automatic damage detection could be extremely valuable where there are certain technical requirements – for example, checking the technical requirements of walkways, flanges and stairs and, if required, scheduling repairs before the next load.

Koen says supplai's solutions are designed to relieve people of repetitive tasks, which in turn increases the quality of work and frees up time for strategic and challenging tasks. He sees his role as bridging the gap between the innovative technology and the practical realities and possibilities of the company.

"When I talk to customers, I walk through what AI can do – reading, speaking, seeing, analysing and predicting. I let them see it through their own eyes."

AI cuts through complexity

There is enormous complexity in tank container logistics, he notes, and AI will answer many more challenges. "Where do you have empty tanks, where do you predict to have empty tanks, how do you predict sales at the right moment, how can you organise backloads? Often people are working out the right heating of products on the back of an envelope, or it's a guy with 20 years' experience saying that if you need to have a tank at 30 degrees Celsius on Friday, turn the heating on at this power on Wednesday. However, you could make accurate predictions with AI based on outside temperature, product, forecast, pressure of steam and historic information. You could reduce energy and optimise your equipment."

supplai's solutions are already in action and being tested at depots in various locations. The tank container sector is open to discussing the potential that AI offers, says Koen.

"I think the people adopting AI now will be able to grow much more efficiently than others," he says. "There is a huge shortage of people and the logistics market is under pressure. The number of people that are wanted for logistics functions is much higher than the number available. Companies looking for efficiency, cost-reduction and improved services will be able to scale and grow their companies with AI.

In the end, it is about who is the most innovative." ■

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