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ITCO's 2023 fleet survey shows an all-time high global fleet and record new builds.

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Tankcontainer MAGAZINE

In place of our usual Q&A, and to mark ITCO's 25th anniversary, *Tankcontainer Magazine* discusses ITCO's role in the tank container industry - and the general development of the tank container business - with President Reg Lee.

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In place of our usual Q&A, and to mark ITCO's 25th anniversary, Tankcontainer Magazine discusses ITCO's role in the tank container industry

2022: another record year for many but 2023 won't be

For the tank container industry, 2022 did indeed have a good beginning - and a good middle - but there was no happy ending.



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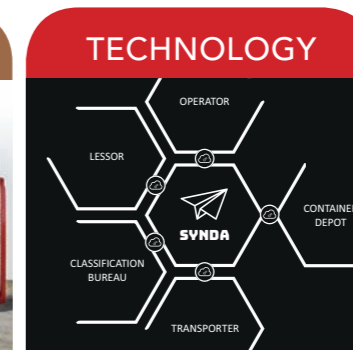
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- 4. Cross analytics:** create extra value by combining data from different silos, eg. analyse unforeseen repair invoices by allocating them to regions, products or customers to discover problems and underlying root causes.



2022: another record year for many ... but 2023 won't be

George Burns, the cigar-chomping US comedian, once said that the secret of a good sermon was to have a good beginning, a good ending and to have the two as close together as possible. For the tank container industry, 2022 did indeed have a good beginning - and a good middle - but there was no happy ending. **The final quarter was weak** - demand in Europe fell off dramatically as exceptionally high energy prices and rampant inflationary pressures hit chemical production and tank container demand, offset to a degree by strong tank container exports from Asia.

One message was clear: **geographically diversified operators did very well**; those focused on Europe, didn't. Deep sea tank container operators benefitted from their exposure to the post-lockdown rebound in demand in China, strong Asian growth and reasonable growth in the Americas.

More reliable supply chains meant that cargo volumes were being moved using fewer tank containers and lower ocean freight rates - while reducing tank container operator margins - enabled them to reposition equipment more cost effectively to meet demand.

Utilisation fell towards the end of the year as operators and chemical companies returned surplus-to-requirement tank containers to lessors as a result of falling sales, an increased confidence in equipment and slot availability, and the drive to reduce their exposure to the high tank container demurrage costs of operators. Increasing tank container **utilisation became an urgent priority** for many.

By Q4, the global tank container market had turned with reductions in equipment prices, demand and new builds. Tank container **prices fell** by up to 20% to \$18,000 for standard T11s, per diems for leased units edged down and the number of tank containers in depots ballooned. Over-supply was exacerbated by the **record number of new builds** entering the market while global tank container shipments were estimated to be at least 5% down on 2021.

However, despite market softness in Q4, it was another record year for many in the tank container business. The much-anticipated **'Review of the Year 2022'** (Page 28) highlights the year's most significant twists and turns and underlines why, at a fundamental level, the tank container market continues to be so desirable for discerning investors looking for dependable, attractive returns over the cycle.

Meanwhile, ITCO's 2023 fleet survey (Page 33) estimated a **record global fleet** of 801,800 tank containers, up 8.65% since January 2022 (which was up 7.3% on 2021). The 67,865 new build tank containers were also an all-time high with the 27%

increase driven by continued Covid-legacy disruption and inefficiencies in the global supply chain through the year, coupled with a strong recovery in many markets.

Of course, as the market dynamics ebb and flow, there are always those at the edge that are squeezed. Hamburg-based **VTG**, for example, has become a victim of the 'significant deterioration of the market since the third quarter of 2022', citing a significant slump in [European] transport demand from the chemical industry and falling freight rates.

All the tank container transport and forwarding business activities of VTG Tanktainer will be discontinued and facilities in Germany, Finland, North America and Singapore will close with the exception of the Shanghai Cosco VTG Tanktainer joint venture in China.

VTG will now refocus its relatively small scale fleet of 6,115 European tank containers on leasing which, together with its fleet of 88,500 leased rail wagons, will effectively operate the same business model as GATX/Trifleet and Ermewa. VTG's simplified tank container leasing business will inevitably attract the attention of a number of potential acquirers.

US-based **Boasso Global**, providing depot services for tank operators, has expanded its coverage into Europe since 2016 and now owns Isotank, Den Hartogh's former depots, Kobler, Butefuhr, PM Rees, Frans de Wit and TPC. Last year, private equity owners Apax Partners sold its majority interest in Boasso Global to KKR, one of the world's top publicly traded private equity firms.

Boasso Global's new owners have acted swiftly, announcing in February that they intended to merge with Tampa, Florida-based **Quala** by acquiring private equity Advent International's shareholding in Q Super Holdings Inc., the owner of Quala. Quala is the largest independent tank wash, inspection, maintenance and repair provider in North America. Consolidation, at last, in the highly fragmented but vitally important depot niche and perhaps the beginning of a global "McDonald's" brand for the tank cleaning/depot sector.

Depots are increasingly attractive, smaller scale investment propositions, not least because the industry offers scope for consolidation and revenues are recurring and non-volatile. Fee revenues are broadly split equally between storage, cleaning charges, and Maintenance & Repair.

All in all, 2022 was a **bumper year for many** but 2023 brings with it a number of different challenges for the tank container sector. ■

Leslie McCune, Editor

Some examples:

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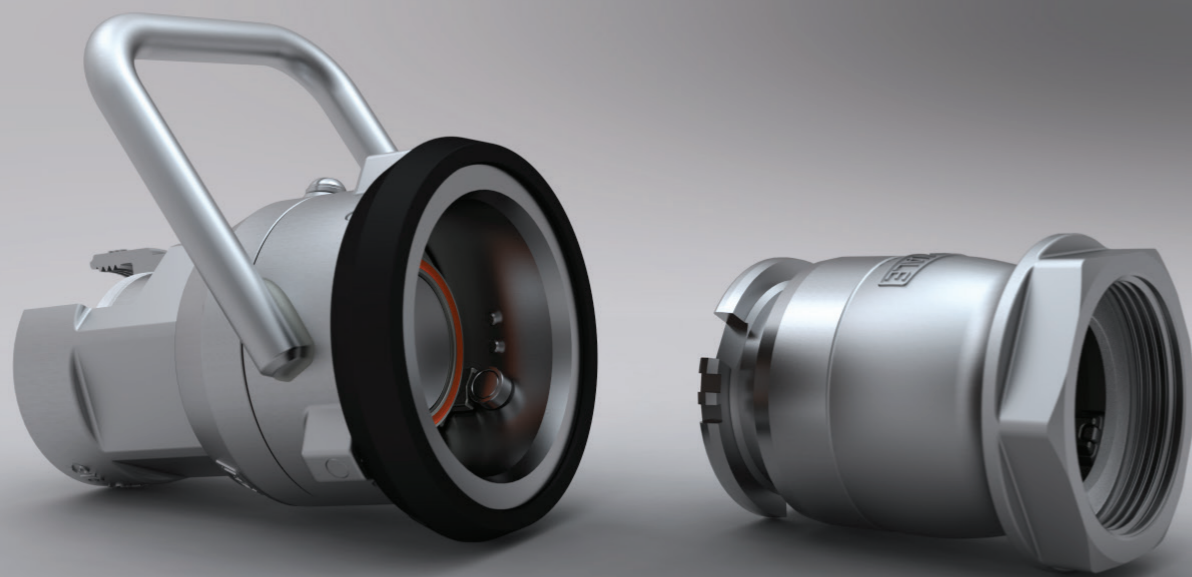
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Chemspec Europe 2023: Key event for the fine and speciality chemicals industry to tackle current challenges in a rapidly changing market

From 24 – 25 May 2023, Chemspec Europe returns to Basel, Switzerland, for the 36th international event dedicated to the fine and speciality chemical industry.

Visitors attending Chemspec Europe come from a wide range of areas seeking fine and speciality chemicals from across the industry, including pharmaceuticals, agrochemicals, household and cleaning chemicals, adhesives and sealants, green chemicals, petrochemicals and many others. The round-up of the previous event in Frankfurt, which connected 5,122 industry experts from 57 countries, illustrated once more the high demand for bespoke chemicals and innovative products.

Ahead of the show, Christiane Beck, Chemspec Europe Event Manager, comments: "The chemicals industry is one of Europe's largest manufacturing sectors and plays a pivotal role in providing innovative materials and technological solutions. It operates in a rapidly changing market and faces many challenges. The roadmap for the European Green Deal sets the expectations that by 2050 the EU chemicals sector will need to become climate neutral, digitalise its processes and transition to safe and sustainable chemicals whilst adapting to changing legislative measures and a circular economy. Choosing the right suppliers

and exchanging knowledge within international industry networks is more important than ever. So, we look forward to enabling new learning opportunities and showcasing this dynamic industry at Chemspec Europe 2023".

What's on at the show

Among over 230 exhibitors from the fine and speciality chemicals industry, there is a particularly strong representation of Swiss, German, Austrian, French, Belgian, American and Indian firms. Exhibitors at Chemspec Europe include Arxada AG, CABB AG, ESIM Chemicals GmbH, ORGANICA Feinchemie GmbH Wolfen, PI INDUSTRIES LTD, Robinson Brothers Limited, Saltigo GmbH (Lanxess), SEQENS SA, Society of Chemical Manufacturers & Affiliates (SOCMA), Sumitomo Chemical Europe NV, Weylchem International GmbH and many more.

The extensive conference programme forms an integral part of Chemspec Europe, providing visitors and exhibitors with exciting insights into ongoing research and development projects, interesting discussions and valuable networking opportunities. The conference programme takes place in five theatres: The Agrochemical Lecture Theatre, The Pharma Lecture Theatre, The Royal Society of Chemistry Symposium, The Regulatory Services Lecture Theatre and The Innovative Startups Presentations, which show the broad range of topics covered in the

programme and the work of partner organisations with RX Global, the organisers of Chemspec Europe. The conference agenda will be released in due course.

Key visitor information

Visitor registration for a free ticket for the two days of the show is now open on the show's official website: www.chemspeceurope.com. Free registration is available until 9 May, before the ticket price increases to CHF 50 from 10 May. On-site ticket purchases will incur a further rise to CHF 70.

To enhance visitors' networking opportunities on-site, Chemspec Europe offers a free-of-charge Matchmaking Programme. The matchmaking platform is an important time-saving asset for visitors of the show, aiming to connect visitors and exhibitors with complementary buyer and seller interests. A compatibility function will help attendees find the perfect match and organise private meetings with industry suppliers ahead of the event. Visitors who register via the Chemspec Europe website will be invited to use the networking service at a later stage.

For more information on Chemspec Europe, such as opening hours, travel, and visa procedures, please visit www.chemspeceurope.com

For exhibiting enquiries, please get in touch with the show team at chemspeceurope@rxglobal.com

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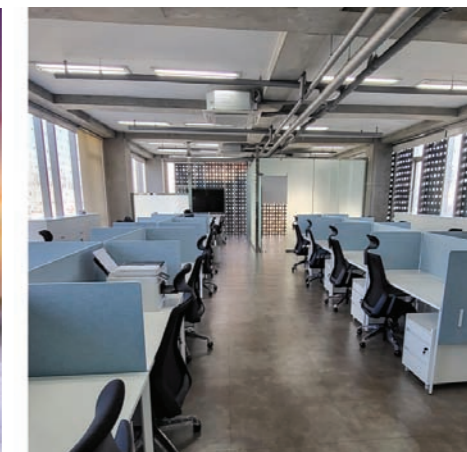
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Legend expands its global footprint with new office in Seoul, South Korea



Legend Group is proud to mark another milestone in its global expansion by opening its new office in Seoul, South Korea. The new office signifies Legend's continued global growth and development.

This strategic expansion further entrenches our mission to effectively serve our customers in the region and pan-Asia markets with reliable, tailored and comprehensive logistics solutions. In addition, this will enable us to tap into the region's vast opportunities and growth potential.

Legend Seoul office offers logistics and shipping solutions for all types of freight including bulk liquid chemicals,

dry and perishable commodities, project and oversized cargos.

The new office is located at NK Building 13th Floor, Bongeunsaro 306, Gangnamgu, Seoul, and led by Francisco Roh, General Manager. ■



Advanced Polymer Coatings mourns loss of Founder Donald J. Keehan



It is with a heavy heart that we inform the passing of Donald J. Keehan Sr, Advanced Polymer Coatings Founder, on Wednesday, December 28th, 2022.

Don was the founder and key driving force behind the company, but much more than that, he was a brilliant mind, a great friend, and an extraordinary human being. Born with an entrepreneurial spirit, Don was involved in starting and running several polymer-based technology companies since the 1960s, holding more than 14 total patents within the industry.

He pioneered the use of proprietary patented polymers to create high-performance coatings, including the well-known MarineLINE® and ChemLINE® brands marketed by one of his most successful companies, Advanced Polymer Coatings (APC), which took its namesake in 1997.

Don was the true definition of an entrepreneur and was often referred to as a disruptor in the industry; he never stopped pushing the envelope of technology, and he leaves a legacy through his work that all of us here at Advanced Polymer Coatings are proud to carry on.

To most, Don was many things. But to us, Don was a son, brother, husband, father, grandfather, great-grandfather, Marine, entrepreneur, risk-taker, visionary, philanthropist, colleague, mentor, motivator, and most importantly, our friend and inspiration. ■

**Sincerely,
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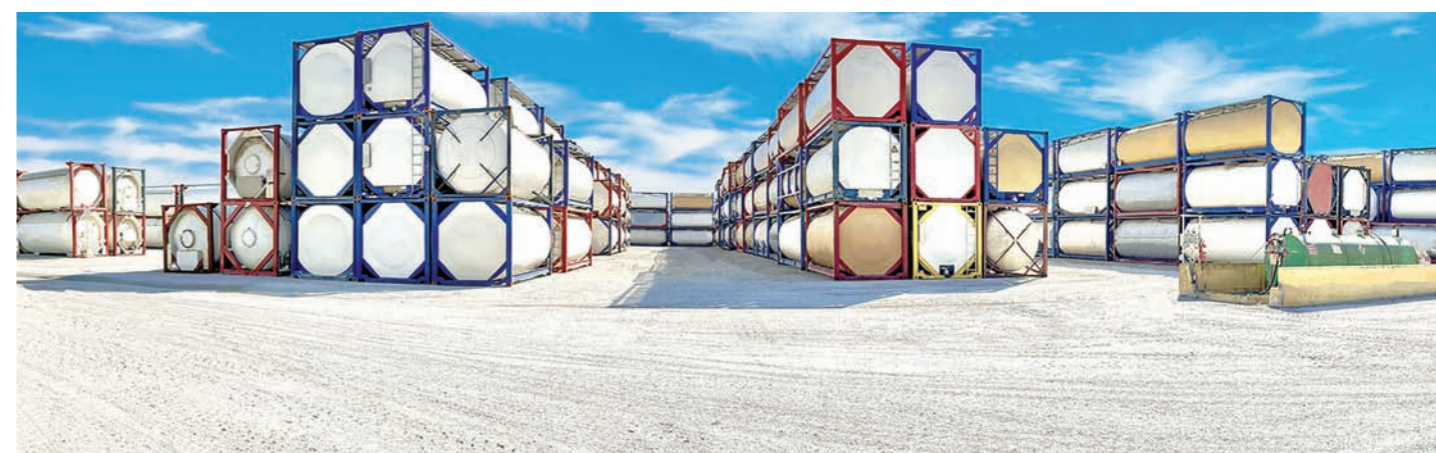


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Boasso Global and Quala to Merge, Creating a Leading Infrastructure Service Provider



Tampa, FL – February 9, 2023 – **Boasso Global, Inc. and Q Super Holdings, Inc. today announced the signing of a definitive agreement under which the companies will merge their complementary businesses to create one of the leading infrastructure services solution providers for the liquid bulk logistics industry. The transaction is supported by a new investment from Boasso's majority shareholder, KKR, through its KKR Global Infrastructure Investors IV fund. Under the terms of the agreement, KKR will inject further growth capital into Boasso to facilitate the merger with Quala via a purchase of shares from Advent International and invest in the strategic combination of the two businesses.**

Quala is one of the North American leaders in liquid bulk container cleaning and maintenance services, including tank trailer, ISO tank container, railcar and IBC cleaning, and Boasso is a leading provider of mission-critical infrastructure

services for the ISO tank container industry in North America and Europe. Upon completion of the merger, the companies will combine their complementary geographical footprints and service offerings to deliver enhanced solutions for customers across the liquid bulk logistics industry in North America and Europe.

"Boasso and Quala are premier infrastructure service providers to the global liquid bulk logistics ecosystem with trusted reputations and highly complementary networks and service offerings," said Dash Lane, Partner at KKR. "This transaction is about growth and empowering the two great teams led by Joe Troy and Scott Harrison to come together and make long-term investments in quality, safety and superior solutions for customers."

Joe Troy, Chief Executive Officer of Boasso, said: "We are focused on meeting the needs of our global customers and the combination of Boasso and Quala makes perfect strategic sense. This transaction will enhance our ability to deliver safe, compliant and best-in-class services to our ISO tank container customers and meaningfully expand our access to more locations across North America

to better serve their needs. This is a rare opportunity to put together two Tampa-based, complementary businesses and I am excited to work with Scott and his talented team to unite the best of our organizations with a focus on enhanced efficiency and growing our range of premium solutions for the liquid bulk logistics industry."

Scott Harrison, Chief Executive Officer of Quala, said: "Our organizations not only have a strong commercial relationship, but also shared cultures of delivering excellence, innovation and safety for our customers. This combination with Boasso and new investment from KKR will allow us to advance our position as a leading provider of container cleaning and maintenance services while continuing to seamlessly meet our customers' needs. Together Quala and Boasso will benefit from greater connectivity to our customers, an expanded global footprint and new opportunities for our team members as part of a larger combined organization."

Since Advent's investment in Quala in 2016, the company cemented its position as the largest independent tank wash, inspection, maintenance and repair solutions provider in →

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“Boasso and Quala are premier infrastructure service providers to the global liquid bulk logistics ecosystem with trusted reputations and highly complementary networks and service offerings”

Dash Lane, Partner at KKR

North America. Through both organic and inorganic initiatives, Quala has grown significantly, expanding across services and markets to further enhance its customer offering. Under Advent's ownership, the company invested heavily in building out the platform – including critical investments in safety, talent and technology. Quala's accomplishments include developing a proprietary technology suite, OnTrax, to make Quala's services more seamless for customers. Advent's investment enabled Quala to scale its footprint from 60 locations and 500 employees to 119 locations and over 1,800 employees today and the company has achieved substantial profitable growth across key metrics while building and growing its employee stock ownership program.

Stephen Hoffmeister, Managing Director at Advent International, said: “We have been proud to partner with Scott and Quala's senior leadership team as they have transformed their company into an industry leader. The Quala management team has delivered compelling performance by driving an employee first culture, technological innovation and customer excellence. Quala is a well invested platform strategically positioned to continue its success and make important investments for its people.”

The transaction, which is subject to the receipt of required regulatory approvals and satisfying other customary closing conditions, is expected to close in the first half of 2023. Boasso and KKR were advised by Simpson Thacher & Bartlett, LLP as legal counsel and by Citi as financial

advisor. Quala and Advent were advised by Weil Gotshal & Manges, LLP as legal counsel and by Credit Suisse as lead financial advisor and Bank of America as financial advisor.

About Boasso Global

Headquartered in Tampa, Florida, Boasso Global is a leading international provider of depot and transportation services to a fast-growing, global ISO tank container industry. Boasso offers a multitude of mission-critical services through a network of 34 international depots, including 17 in North America, 8 in the United Kingdom, and 9 in Continental Europe. Boasso is a Responsible Care certified member within the American Chemistry Council. For more information, visit www.boassoglobal.com.

About Quala

Headquartered in Tampa, Florida, Quala is the largest independent provider of comprehensive cleaning, test, and repair services for Tank Trailers, ISO Containers, IBCs, and Railcars. Founded in 1986, the company began independent operations in 2009 and today has 119 locations. For more information about Quala, visit our website at www.quala.us.com.

About KKR

KKR is a leading global investment firm that offers alternative asset management as well as capital markets and insurance solutions. KKR aims to generate attractive investment returns by following a patient and disciplined investment approach, employing world-class people and supporting growth in its portfolio companies and communities. KKR sponsors investment funds that invest

in private equity, credit and real assets and has strategic partners that manage hedge funds. KKR's insurance subsidiaries offer retirement, life and reinsurance products under the management of Global Atlantic Financial Group.

References to KKR's investments may include the activities of its sponsored funds and insurance subsidiaries. For additional information about KKR & Co. Inc. (NYSE: KKR), please visit KKR's website at www.kkr.com and on Twitter @KKR_Co.

About Advent International

Founded in 1984, Advent International is one of the largest and most experienced global private equity investors. The firm has invested in over 405 private equity investments across 42 countries, and as of September 30, 2022, had €91 billion in assets under management. With 15 offices in 12 countries, Advent has established a globally integrated team of over 290 private equity investment professionals across North America, Europe, Latin America and Asia. The firm focuses on investments in five core sectors, including business and financial services; health care; industrial; retail, consumer and leisure; and technology. For over 35 years, Advent has been dedicated to international investing and remains committed to partnering with management teams to deliver sustained revenue and earnings growth for its portfolio companies.

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01

Product

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- Reefer tank
- Baffle tank
- AHF tank
- Hydrogen peroxide tank
- Metallic Sodium tanks
- IBC/SBC tank
- T20/T22 tank

02

Service

- Global service network

03

R&D

- ASME U&U2, C3, LR, BV, CCS, RMRS, DNV certifications
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Nantong Tank Container Co., Ltd

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Van den Bosch invests in deep-sea activities



ERP, 27 January 2023 - Van den Bosch is expanding its deep-sea activities with the purchase of 500 additional 20 ft tank containers. These ISO tank containers were immediately put into use, which enables the logistics service provider to respond to the growing demand from the African market for deep-sea transport with ISO tanks for the food industry.

Van den Bosch runs its deep-sea activities from its branch in Dubai and is now one of the world's largest tank operators for the food industry. The focus is on the African market with an emphasis on shipping liquid food products, such as olive and sunflower oil, ethanol, glucose and whisky, in ISO tank containers. 'We have been active in Africa since 2014, with a particular focus on developments in the continent', says Mark Ashton, Commercial Director of Van den Bosch in Dubai. 'Over the years, we have grown with the increasing demand for bulk transport. The purchase of these 500 additional containers reflects that and will support our growth model within Africa.'

Sustainable change

Much of Africa still operates in the traditional way, whereby products are shipped in small packages or

flexitanks. As The Supply Changer in Bulk, Van den Bosch focuses on setting up and redirecting traditional transport flows to bulk transport. 'ISO tank containers offer an efficient, reliable and sustainable alternative', says Ashton. 'Through our current operations in countries such as Ghana, Ivory Coast and Nigeria, we've noticed the need for such a sustainable transport solution.'

'Investment in the region offers us opportunities to develop further in the African market', says Ashton. 'This includes countries such as Cameroon, Senegal, Togo and even Sierra Leone. The focus is now on establishing a reliable and available supply of ISO tank containers in these countries. That is the key to sustainable change.'

New cleaning station Ivory Coast
Further investment in the African

market translates into the construction of new tank cleaning facilities on the African continent. A new tank cleaning station is opening in Abidjan, Ivory Coast, following the cleaning station that opened in Ghana in 2016. According to Ashton: 'For bulk transport to take place, ISO tanks must be available that comply with the proper cleaning requirements.'

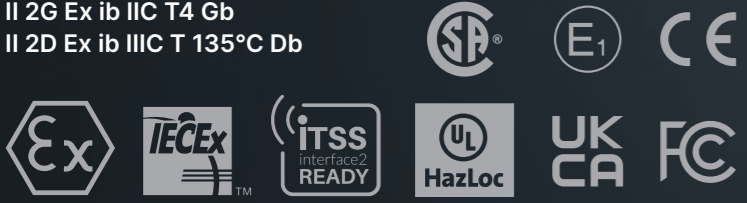
The new cleaning station will be built in full compliance with European quality standards for food, Kosher and Halal cleaning.' The cleaning station is expected to open in the second quarter of 2023.

For more information and interview requests, please contact the Communication department: communication@vandenbosch.com or +31 413 217217. ■



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Leschaco to open 29,000 sqm chemical logistics center in Moerdijk, Netherlands



Bremen, Germany | Moerdijk, Netherlands - January 2023: Following the opening of a new chemicals and dangerous goods warehouse in Malaysia last year, Leschaco has now signed a lease with industrial land developer DHG (David Hart Group) developing a new ADR warehouse facility in Moerdijk, Netherlands.

Situated in a strategic location between the ports of Rotterdam and Antwerp - the two most important seaports in Europe - Moerdijk guarantees optimal accessibility to the European hinterland and ensures that customers' products are transported in an efficient manner in terms of cost, speed, accessibility and frequency.

The new facility is scheduled to be ready in the 3rd quarter of this year.

The new chemical logistics center has optimal multimodal transport links: In addition to the proximity to the seaports of Rotterdam and Antwerp, access to the two most important waterways in the Netherlands - the Rhine and the Meuse with daily barge traffic to/from Rotterdam and Antwerp - as well as direct connections to the A16 (Antwerp-Breda-Rotterdam), A59 and A17 (Moerdijk-Rosendaal-Antwerp) are essential prerequisites for smooth transport handling. In addition, two public rail terminals in the vicinity are available for use.

The warehouse offers space for approximately 45,000 pallets on an area of 29,000 sqm. It is divided into five sections. Four of them are

equipped with CO2 extinguishing systems, specifically designed for the storage of chemicals and dangerous goods, while the fifth is for the storage of general cargo and is equipped with ESFR sprinklers.

"This project is an important strategic milestone for our presence in Europe. It is also necessary to meet the increasing demand in the region and to be closer to our customers," says Constantin Conrad, Managing Partner of Leschaco Group.

"The new logistics center offers our global customers in the chemical, healthcare, automotive, industrial materials and consumer goods sectors a wide range of services and, in combination with other Leschaco products, complex logistics solutions at the highest level. In →



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This project is an important strategic milestone for our presence in Europe. It is also necessary to meet the increasing demand in the region and to be closer to our customers.

Constantin Conrad, Managing Partner, Leschaco Group

addition to pallet storage, this includes various kinds of value-added services according to our customers' demands," adds Sebastian Haebler, Head of Global Contract Logistics at Leschaco.

David Hart, Owner DHG, supplements "Leschaco and DHG are both family businesses, our motivation, standards and values are very similar. Partly for this reason, we are honored to add Leschaco to our DHG "family" and to be a part of their expansion within Europe."

The new building meets all safety and environmental standards. Solar panels on the roof will be able to cover part of the electricity demand. Other sustainable measures, such as the use of electric floor heating instead of gas or oil installations, LED lighting, and the highest construction standards for isolation, also contribute to improving the climate balance, as do the short distances to the port of Moerdijk for transport by barge and rail and e-charging stations for cars.

Information DHG: DHG is the biggest

developer of large logistics real estate at its own risk in the Netherlands. Since 2015, DHG has realized over 1.3 million sqm of distribution centers according to the SMARTLOG concept – DC's of guaranteed quality and with defined specifications. These distribution centres are designed in such a way that they are suitable for a wide range of types of user. All our distribution centres and terminals are situated in top logistical locations, right by waterways, roads, terminals and airports. At this moment approximately 300.000 sqm is under construction, planned to be delivered in 2023.

Company information:

The Leschaco Group is a traditional, owner-managed logistics service provider and offers intercontinental logistics solutions for sea and air freight as well as contract logistics and tank container operation. As proven partner for leading companies in plant construction and mechanical engineering, automotive, chemical and related industries, producers of consumer goods and pharmaceuticals.

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The company was founded under the name of Lexzau, Scharbau by Wilhelm Lexzau and Julius Scharbau in Hamburg in 1879. Today, the group is represented in 24 countries worldwide. This network is supported by a carefully selected network of agents. The company insists on a sustainable business development and its headquarters are in Bremen. ■

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VTG to discontinue its tank container logistics activities



Hamburg, February 13, 2023. VTG is terminating its tank container transport and logistics business and will discontinue the relevant activities by the end of the second quarter of 2023. Discontinuing all the tank container logistics activities of VTG Tanktainer will also involve closing its international subsidiaries, with the exception of the joint venture Shanghai COSCO VTG Tanktainer Co. Ltd. VTG will, however, continue and expand its tank container leasing business.

This step is necessary in order to respond to the increasingly fraught market situation with which VTG has been confronted since the third quarter of 2022. A pronounced slump in demand for transport in the chemical industry and declining freight rates – in part due to the massive increase in energy costs – has been accompanied by substantial price hikes in the intermodal segment. At the same time, freight costs can now only be planned on the basis of prices valid for between three and six

months. After thoroughly examining various options, the Executive Board, acting in agreement with the shareholders, took the strategic decision to discontinue the logistics activities of VTG Tanktainer.

Tank container leasing activities – including the staff and the assets themselves – are to be transferred within the VTG Group at the Hamburg site by the end of the second quarter of 2023. Relevant offerings will in future be made available from here. VTG Tanktainer's other facilities in Germany, Finland, North America and Singapore will be closed by the end of 2023. The joint venture Shanghai COSCO VTG Tanktainer Co. Ltd. in China is not affected by these measures.

About VTG:

Headquartered in Hamburg, VTG GmbH is an international asset owner and logistics company with a strong focus on rail. Besides hiring out rail freight wagons and tank containers, it also provides multimodal logistical services and integrated digital solutions. The company's fleet includes around 88,500 rail freight wagons – mostly tank wagons, intermodal wagons, standard freight wagons and sliding-wall wagons – as well as about 5,000 tank containers.

This diversified service portfolio gives VTG's customers a robust platform for international freight transportation, based on which the company develops made-to-measure logistical solutions for any and every industry.

Over many years, VTG has accumulated granular expertise across the entire transport chain – expertise that is now flanked by smart technology. The Group likewise combines a wealth of experience with a specialized knowledge of the transportation of liquid and sensitive goods in particular. Its customers include a plethora of leading companies representing the chemicals, petroleum, automotive and paper industries, agriculture and virtually every other sector besides.

VTG posted revenue of EUR 1,221 million and an operating profit (EBITDA) of EUR 472 million in the 2021 financial year. The Hamburg-based company's subsidiaries and affiliates give it a sizable footprint in Europe, North America and Eurasia. Effective December 31, 2021, VTG employed around 2,150 people worldwide.

More information at www.vtg.com. ■

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WHEN IT MATTERS

ITCO promotes industry safety, efficiency, sustainability

In place of our usual Q&A, and to mark **ITCO's 25th anniversary**, *Tankcontainer Magazine* discusses ITCO's role in the **tank container industry** - and the **general development of the tank container business** - with President **Reg Lee**.

Established by five founder companies in 1998, the International Tank Container Organisation (ITCO) now has a membership of over 200 companies, collectively providing tank container operations, leasing, manufacturing and the supply of associated equipment and services. It has become the leading advocate for the use of tank containers in the transport - and short-term storage - of bulk liquids and gases.

"ITCO's mission is to promote the use of tank containers as a safe, efficient and sustainable mode of transport for the chemical, food and pharmaceutical industries," says Lee. "One of ITCO's main functions is to establish and promote industry standards, safety and best practices."

ITCO also works to enhance the image, reputation and environmental sustainability of the tank container industry.

"ITCO focuses its work on four key aspects of the business," says Lee. "Our efforts are directed at promoting safety, providing technical/regulatory knowledge and resources, encouraging efficiency and underlining the environmental benefits of tank containers".

Under Lee's presidency, ITCO has published a series of ten Technical Guidelines for members. These focus on recommended best practice for safety, sustainability and other aspects of tank container operation. Safety continues to be a top priority.

Environmental best practice

ITCO recognises that businesses - including companies shipping their products in tanks - are now increasingly looking for environmental sustainability best practice in their transport service suppliers. The tank container operates in a world where beneficial cargo owners (BCOs - the producers of chemicals and liquid foods and drinks) are active in their obligations to implement environmental initiatives throughout the transport chain.

The inherent sustainability of the tank container is a key asset to the growth of the tank container industry. Over the past three years, ITCO has actively campaigned to promote the environmental benefits of tank containers. ➔



Reg Lee,
President,
International Tank
Container Organisation
(ITCO)



"An English/Mandarin video was prepared," notes Lee, "explaining the problems of single-use plastic bags and encouraging the use of tank containers as a more sustainable transport mode. And we have just launched an advertising campaign highlighting tank container environmental benefits. ITCO members are also engaged in environmental programmes such as Ecovadis Assessments and sustainability policies."

Last year, the organisation published its Technical Guidance document "Tank Sustainability Repurposing and Recycling" which provides sustainability guidance, including procurement, safe end-of-life repurposing and eventual recycling. "With 90% of the weight of a tank container's materials being recyclable," says Lee, "our industry easily meets the end-user's sustainability requirement."

PFAS

ITCO's Environmental Work Group has also been addressing the proposed ban on Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS), with the most recent Guidance Document to be published being its Case Study ("The Health and Safety Impact on the Tank Container Industry in the Event of a Restriction to the manufacture of PFAS").

Regulatory authorities in Europe and North America are investigating the potential restriction of the manufacture of PFAS's. The Guidance Document highlights the crucial contribution of PFAS which are used in the manufacture of valve seals and gaskets for the safe containment of liquids and liquefied gases that are transported globally in tank containers. With a lack of suitable alternative materials, the Case Study calls for sealing element materials to be designated "materials of essential use". As well as lobbying regulatory authorities, ITCO's will seek ways to keep PFAS-laden contaminants out of landfills.

ITCO is also arranging pilot schemes to consider ways of consolidating used seals and gaskets separate from other waste, and periodically arrange safe disposal (or recycle where possible).

Digital standardisation

Alongside the Environmental Work Group (WG), ITCO recently established an "Efficiency" group of experts whose objective is to create industry standards for digitisation processes, which are still lacking in some areas.

The WG's first project is to develop a standard for tank container load movement milestones across deep sea routes. The key target is to develop standards for visibility and track-trace capability towards the customer.

Training and E-learning

One of Lee's priorities in his presidency has been to encourage students to consider the tank container industry as a possible career path. In November 2019, ITCO donated a tank container to the Shanghai Maritime University, for use as part of their training program. This training was put on hold for three years but plans are now in place to start the delayed on-site training.

More recently 80 students from Rotterdam's Shipping Training College (STC) attended ITCO's "Tank Container Awareness Day". The meeting's aim was to give STC students the chance to explore the opportunities for working in the tank container industry.

There continues to be significant interest in ITCO's Tank Container E-learning Course, with a significant increase in companies purchasing it during the pandemic, as a way of educating new and existing employees who may be working from home.

Webinars, Meetings, Tank Container Village

The pandemic led to ITCO organising a series of online webinars. "We will continue to organise webinars. October's Amsterdam meeting attracted over 200 participants - by far the largest conference that we have arranged."

The next ITCO event will be the Tank Container Village - part of transport logistic 2023 in Munich in May, where over 70 ITCO members will exhibit.

Industry issues

ITCO is working to develop the tank container as an industry in its own right, working as an identifiable and essential part of the logistics chain.

"The massive disruption and challenges in the supply chain over the past three years," says Lee, "have proved that the tank container can play a critical role in the "just-in-time" business

philosophy of the major end users - the shippers. To achieve this, the industry needs to promote safe working practices and the safe handling of tank containers. This includes educating members and encouraging the establishment of professionally run cleaning companies, especially in emerging markets."

The challenges caused by supply chain disruptions in 2021/2022 have underlined the service that the tank container industry did for its customers, says Lee.

"Chemical companies have been using the tank container on a "just-in-case" basis," Lee explains. "As regular deliveries could not be guaranteed, they had to use the tank container as additional storage which meant that tank containers were used as they should be i.e. as part of a dedicated logistics supply chain. A tank container can be used as a shipping tank, a road tank, a rail tank and a storage tank - that is the benefit of the tank container's flexibility."

Lee also notes that the key to successful partnerships between tank container operators and customers is the ability to find return loads. Instead of the old bid-and-offer system of contracts, customers should be more willing to enter into longer term contracts. The operator then knows for which region it has regular loading requirements and can accept cargo going into those areas, reducing its empty repositioning costs and sharing the benefits with shippers.

"The average international utilisation of a tank container fleet is

just over 70% but this can be improved if return loads can be found, which can best be achieved if long-term contracts are in place." Looking ahead, Lee predicts that substantial numbers of tank containers being held on demurrage by chemical companies will be returned empty to operators, partly due to the easing of supply chain problems and the demurrage charges. In turn, many will be returned to lessors, pressurising both lessors and equipment storage depots.

During the pandemic, the tank container shortage led to a record demand for equipment with tank manufacturers having one of their most successful years. Lee estimates that over 60,000 tank containers were built in 2022. High demand meant that, instead of scrapping older tank containers (or taking them out of operational circulation), they were repaired and brought back into service. However, as in the 1990-1991 and 2008-2009 global recessions, growth in the global inventory risks an oversupply of equipment this year.

The tank container industry has grown significantly in recent years, driven by increasing global demand for bulk liquid and gas transport. ITCO plays a critical role in advancing the industry's interests and ensuring the safe and sustainable transport of hazardous and non-hazardous materials.

Lee believes that ITCO will continue to strengthen professionalism in the industry, providing valuable technical and information resources to its members. ■

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Tank Container Village at transport logistics 2023

9TH – 12TH MAY 2023



1 Grande Tek	18 Zodiac	34 Swift	51 Boasso
2 IMT	19 CIMC	35 Singamas	52 Stolt
3 Peacock	20 Exsif	36 Van Moer	53 Richter Gruber
4 Bayarea	21 Den Hartogh	37 DB Cargo	54 Eurotainer
5 Talke	22 Perolo	38 Raffles	55 Van Hool
6 CS Leasing	23 Koeppen	39 CXIC	56 Condaco
7 ilInterchange	24 Triton	40 Depot Software	57 Pelican
8 Advanced Polymer	25 Intermodal Tank Transport	41 Heng Cheng	58 Groninger
9 NRS Global	26 Eltherm	42 VSP	59 NT Tank
10 MRI	27 Bureau Veritas	43 Newport	60 Sunpass
11 NRS Corp	28 Klinge	44 Hueni	61 Buhold
12 Bertschi	29 HOYER	45 Vervaeke	62 Lamilux
13 Cassilon	30 Tacon	46 Contank	63 Welfit Oddy
14 Seaco	31 Deccan	47 Hempt & Ernst	64 Samat
15 E-Way	32 RMI	48 Kube Kubenz	65 Lithcote
16 Gascon	33 Cryovat	49 Gofa	66 Fort Vale
17 M&S Logistics		50 TWS	67 Trifleet
			68 Haesaerts

After an absence of two years due to the pandemic, the tank container world gathers at the **ITCO Tank Container Village** in Munich once again.

With over **72 Members exhibiting**, the Tank Container Village is again completely sold out – the biggest Tank Container Village that ITCO has organised.

We are looking forward to seeing as many members and industry colleagues as possible over the four days of the event.

Tuesday 9th May: CIMC Safeway will be sponsoring the Tank Container Village Welcome Reception taking place at the end of the first day of the Exhibition – from 18.00-20.00

Wednesday 10th May: On the following day, Perolo will be organising its “traditional” wine-tasting evening from its exhibition stand – from 18:00 onwards

Port Tarragona

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Tank Container Village at transport logistics 2023

9TH – 12TH MAY 2023

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1 GRANDE TEK	2 IMT	9 NRS GLOBAL	10 MRI	17 M&S LOGISTICS	18 ZODIAC	25 INTERMODAL TANK TRANSPORT	26 ELTHERM	33 CRYOVAT	34 SWIFT	41 HENG CHENG	42 VSP	49 GOFA	50 TWS	57 PELICAN	58 GRÖNINGER
3 PEACOCK	4 BAYAREA	11 NRS CORP	12 Bertschi	19 CIMC	20 EXSIF	27 BUREAU VERITAS	28 KLINGE	35 SINGAMAS	36 VAN MOER	43 NEWPORT	44 HÜNI	51 BOASSO	52 STOLT	59 NT TANK	60 Zhejiang (SUNPASS)
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Another record year for many

Leslie McCune, an independent tank container market expert, explores how last year's distorted tank container market pushed the market to new highs but dampens expectations for 2023.

Football, as the cliché goes, is a game of two halves where the fortunes of each team can reverse dramatically between the two halves of play. As for football, so too for the tank container market in 2022, except the year was split into three solid quarters, followed by a softer fourth quarter.

Over the year, there were increased tank container volumes in the deep sea markets - despite a likely decline of over 5% in total global shipments - and a more balanced global fleet, partly due to a reduction in the cost of repositioning tank containers as ocean freight rates fell away. With global fleets operating more efficiently, fewer tank containers were needed and - when combined with a demand fall off in Q4 - utilisation fell sharply. Improving utilisation became a top priority for many in Q4.

Global operators prospered while those more exposed to Europe's unique problems did less well. However, the strength of the market throughout the majority of 2022 generated another year of very robust financial returns for the tank container industry but there were enough market concerns and margin compression at the end of the year for any celebratory champagne to be Aldi Premier Cru rather than Krug.

For this 'Review of the Year', we consider the fates and fortunes of the individual key components of the tank container market in 2022.

Chemical industry demand faded

By the autumn of 2022, the chemical sector replaced the fragile confidence it had in the earlier part of the year with a more pessimistic outlook. In Europe, demand in some segments fell alarmingly although specialty chemicals (the chemical segment most reliant on tank containers) suffered less.

Rising energy prices took their toll on European chemical production with many chemical buyers, seeing easing slot availability on the

ocean carriers and faltering demand, de-stocking from September onwards. The market disarray and uncertainty in the overall chemical industry led to a sharp drop in tank container utilisation in Q4, forcing an urgent reassessment by many of a perhaps over-bought fleet.

However, Europe has since recovered some of its competitive edge as lower natural gas prices reinvigorate the region's petrochemical sector. This is reassuring for those prioritising security of supply over cheaper imported chemicals from the likes of China, the world's largest specialty chemical market, where cities accounting for 20% of its economy were still under lockdown at the end of 2022.

Fortunately, regional production cost differences for specialty chemicals usually only affect the global flows of product, rather than the volumes moved in tank containers. MMA acrylate, for example, is one of the world's highest volume tank container cargoes. European production costs became uncompetitive in 2022 due to high propylene and acetone feedstock prices, resulting in the collapse of MMA exports in tank containers from Europe to Asia. Nearly two-thirds of European MMA capacity was offline at one point in 2022. However, this was compensated by a surge of cheap Asian MMA being delivered to Europe in tank containers, encouraged by more normal freight rates. More positively, restocking, and the revival of dormant demand in China, will reverse Q4's demand decline in 2023.

Liner shipping slumped

2022 saw the bubble burst in the shipping industry as rates collapsed at the fastest rate in their history to more normal levels. In an effort to stem the fall in ocean freight rates, blankings and slow steaming (effectively reducing the availability of tank containers) again became commonplace by the end of the year with many shippers and freight forwarders trying to extract

themselves from the occasionally punitive long term contracts they reluctantly signed in the recent period of dominance by the container liner shipping industry.

Increased consolidation has led to the top ten container liner shipping operators now commanding 85% of worldwide capacity. The top three container liner shipping companies have invested their recent profit bonanzas in different expansion models. MSC have kept an asset-focused strategy with further investments into landside logistics. A.P.Moller-Maersk, their partners in the 2M alliance, have focused, like CMA CGM/CEVA Logistics, on becoming integrated one-stop-shop logistics companies offering the convenience of higher margin door-to-door, rather than pier-to-pier, logistics.

Defensive alliance dissolved

Recognising the recent significant changes (i.e. huge profitability bonanzas) in the shipping industry, MSC and Maersk have agreed that their essentially defensive 2M alliance has served its purpose and will be dissolving it in January 2025. Expect, therefore, more intense freight rate competition on transatlantic, transpacific and Asia-Europe routes, and for Maersk to partner with others to maintain its capacity.

But the newly created end-to-end integrated supply chain propositions built by many ocean carriers will be more vulnerable now that shippers are no longer obliged to buy their packaged offerings in exchange for the carrier's slot allocations. The ocean carriers will be challenged by specialist firms exclusively focused on each link of their recently assembled supply chain propositions.

As the financial returns of liner shipping companies inevitably dwindle in the coming years, some of these new transport conglomerates may be forced to spin off, or sell at deep discounts, some of the businesses making up their newly created integrated logistics propositions.

Much of the global container port congestion was created by landside container logistics systems being overwhelmed by changes in container movement patterns. Relatively stable pre-Covid chemical flows remained in flux in 2022, increasing the value of the tank containers as a flexible transport and storage asset. However, despite more contractual space allocations, slot availability remained a problem in the middle of the year.

Tank container market overview

Although fading in the final quarter - when global inflationary factors led to economic weakness and slowing demand - 2022 was another record year for many in the tank container industry. It successfully adapted, invested and innovated to meet numerous challenges as the post-Covid recovery developed amid continuing supply chain difficulties.

In August, there was buoyant demand for both ex-depot tank containers and new builds across all regions and all tank container types. Demand from operators and, by extension, tank container leasing companies held up well as the steady rise in original equipment costs helped push up per diem rates, drive demand for ex-depot units and stimulated demand for extensions on existing leases.

Many lessors took on new equipment and operator margins were strong despite low fleet utilisation. Rising global interest rates caused funding markets to seize up in 2022, making it more difficult for smaller lessors to finance the purchase of specialty tank containers. Per diems are, of course, partly driven by interest rates but, in real terms, Q4 interest rates fell deeper into negative territory because of soaring inflation. At -5%, money had rarely been cheaper. Slot unavailability on ocean carriers - and landside logistics congestion - contributed early in the year to upward pressure on some ocean freight rates, impacting operators and making it challenging for lessors to cost effectively reposition equipment to replenish stocks in the main demand locations. Conversely, lessors and operators with good local tank container availability

were exploiting the opportunities created by competitors who were unable to cost-effectively reposition their empty equipment.

In the autumn, the market remained broadly positive with tank container manufacturers in particular enjoying strong demand. Raffles, for example, expanded their fleet by 46% to 30,000 tank containers in response to strong global demand with many fitted with baffles and ground-operated vapour return lines. The average age of its fleet is 4.3 years, one of the youngest in the industry (compared with Trifleet Leasing's estimated average age of 6½ years when it was bought by GATX in December 2020).

Niches like the T75 cryogenic tank container market remained robust through to the end of the year, after a slow January and February in 2022.

Tank container market trends

Over the year, pure play lessors felt less competitive pressure from those operators who also lease out equipment, usually on shorter term leases. Per diems for short leases shot up, widening margins but, despite this, the priority for operators was less on leasing than on operations and transportation, where margins were even higher.

Decarbonisation and sustainability have become well-established secular trends in the tank container and intermodal-dependent industries, with the leading tank container operators setting ambitious carbon footprint reduction targets in response to the expectations of their own shareholders, and those of their large customers. Swiss-based Bertschi is well-positioned and claims its intermodal logistics chain saves around 70% of carbon dioxide emissions when compared with road-only transport.

Many smaller tank container operators are sustainability laggards, leaving them as an unviable option for some major chemical companies, which remain the most attractive customer segment for several leading deep sea operators.

Long-lasting lockdowns made China an unreliable trading partner. Current and potential geo-political/Covid risks have made chemical businesses more conservative in their approach to risk but the scope for further intermodal penetration in China - where the domestic rail movement of chemicals is embryonic - remains substantial.

The loss of momentum in the globalisation of trade means that dual sourcing from more than one geographical location may be prudent but this comes at a cost and needs a certain amount of scale.

Chemical manufacturing companies worked on improving their supply chain resilience and addressed increased market volatility by diversifying their supplier base. For specialty chemical producers, focusing on integrated cost-advantaged sites will remain a priority, implying a strong dependence on export tank containers to meet customer demand. The drive for closer proximity to customers saw new offices being opened in key markets with Seaco, Eurotainer and Legend, for example, strengthening their global presence by opening offices in Dubai to more effectively serve the Middle East regional market.

The ability to respond to unexpected events highlighted the role of tank containers in creating flexible, resilient supply chains, even though the costs could be marginally higher. The de-risking of supply chains was prioritised by many customers. Larger lessors with a global presence continued the diversification of their fleets to offer a full range of equipment. Operators, on the other hand, are split into those offering predominantly standard T11s and those offering a broader range of tank container types.

In the small T75 cryogenic tank container niche, surging European LNG imports were seen by some to open up tank container opportunities, especially in Germany where new import terminals could lead to smaller scale LNG distribution. ➔

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Fleet survey

ITCO's annual tank container fleet survey estimated that, on 1 January 2023, the fleet had reached a record high of 801,800 units worldwide, up 8.65% on January 2022 (which itself was an increase of 7.3% on the previous year). The global fleet has therefore broadly doubled in the past seven years, indicating an average annual growth rate of 10%.

There was also the highest ever number of new build tank containers (67,865) - up 27% - to meet additional demand from changing trade patterns, a strong recovery in some markets and persistent supply chain disruption, which - despite higher demurrage rates - increased retentions. Older equipment was often repaired and brought back into service with Den Hartogh, for example, partnering with CIMC Safeway to extend the life of over 1,000 tank containers.

Operator and lessor majors dominate

In the survey, the top 10 tank container operators accounted for over 281,160 tank containers, representing over 49% of the global operators' fleet of 568,760 tank containers. The top 10 tank container leasing companies accounted for 299,300 tank containers, representing 83% of the total leasing fleet of 360,925 tank containers.

The largest operator fleet increases were made by Hoyer, with an increase of 4,400, and market leader Stolt Tank Containers, which grew its fleet by 4,000. The growth in the top ten operator fleets of 14,545 units accounted for 21% of last year's new builds.

Within the overall Stolt-Nielsen business - which includes the world's largest fleet of chemical parcel tankers and 14 bulk liquid terminals - Stolt Tank Containers was the 'star performer of 2022', delivering the majority of the group's net profit of \$281 million while accounting for only a third of group revenue.

The stand out asset acquisition action in the leasing sector was the 18% increase in the size of Eurotainer/Raffles fleet to 85,000 with Raffles expanding their fleet by 46% to 30,000 tank containers. Their combined fleet is now by far the largest in the leasing market. Other notable asset purchasing action came from US private equity-owned CS Leasing, which boosted its fleet by 24% to 29,150.

CIMC Safeway dominates manufacturing

CIMC Safeway naturally dominated all others with half of all global production. Its production increased by 15% (4,475 units) year-on-year while Jingjiang Asian-Pacific Logistics Equipment (JJAP) doubled production to 11,250.

As it has been for some time, China's dominance of global tank container manufacturing is total, accounting for 90% of all tank container manufactured.

Prices

Tank container original equipment costs have halved since 2008, when standard T11 prices peaked at \$28,000. However, over the period to 2020, average industry lease rates fell at a greater rate - by over 60% - highlighting the long-term yield compression in the industry. That said, 2021 was an excellent year for the financial performance of the tank container while 2022 was a record for many.

316L stainless steel prices peaked in May 2022 but in Q3 2022, high stocks, combined with falling raw material costs, forced tank container prices lower with benchmark prices for standard T11s falling to \$18,000 from approximately \$21,000 in February, when per diems were \$6.50-7.00.

Weak market dynamics at the end of the year threatened to drive prices even lower although manufacturer margins were squeezed by the combination of weaker Q4 demand and a 70% increase in the nickel component of the 316L stainless steel (which normally accounts for approximately a quarter of a standard tank container's cost).

Changing rates in 2022 impacted tank container EBITDA. Typically, a normal tank container's EBITDA is 3-5% with the EBITDA for T50 gas tank containers 5-8% or higher.

Depots

US-based Boasso Global, established in 1985, continued its expansion. The company provides depot services for shippers and bulk liquid tank operators and expanded its coverage into Europe in 2016 - prior to which it had no presence - with the acquisition of Isotank's six UK depot and trucking operations. The acquisition of Den Hartogh's depots in 2017 expanded its European footprint, which was strengthened by the acquisition of Kobler and Butefuhr in Germany, PM Rees in the UK, Frans de Wit in the Netherlands and TPC in Spain.

In 2022, Boasso Global was itself flipped by owners Apax Partners, which sold its majority interest to KKR Global Infrastructure Investors IV, a KKR fund - focused on 'downside protection' - which raised \$17 billion in March 2022. KKR is one of the world's top publicly traded private equity firms.

Apax acquired Boasso in 2015 as part of its acquisition of Quality Distribution, a global logistics and transportation provider. In 2021, Quality Distribution sold its Quality Carriers bulk liquid chemical transportation business to Florida-based CSX Corporation to leave Boasso as a standalone business.

Boasso Global's new owners have acted swiftly, announcing in February that they intended to merge with Tampa, Florida-based Quala by acquiring private equity Advent International's shareholding in Q Super Holdings Inc., the owner of Quala. Quala is the largest independent tank wash, inspection, maintenance and repair provider in North America with 119 sites.

At last, there is consolidation in the highly fragmented but vitally important depot niche and perhaps the beginning of a global "McDonald's" brand for the tank cleaning/depot sector.

M&A

In the food segment, which accounts for 5-8% of tank container shipments, DHL closed its €1.5 billion acquisition of Hillebrand in March 2022, following the agreement to sell the beverages, beer, wine and spirits logistics company the previous August. French private equity firm Cobepa sold its 16-year ownership stake leaving Hillebrand 100% owned by DHL's Global Forwarding Freight division, which will use Hillebrand to broaden its ocean freight services.

In memoriam

In June, the global tank container industry's well-earned reputation for exceptional safety took a hit when 13 people tragically died, and 250 were hospitalised, when a tank container containing pressurised liquefied chlorine gas fell and ruptured while being loaded in Aqaba. It was the worst ever death toll in a tank container accident.

Conclusion

2023 activity is becoming more normalised so 2021 and 2022 may prove to be the high points for tank container profitability. The uniquely challenging market conditions were testing and, while most prospered, a few - like VTG - could not bear the pain of the change in market conditions in Europe in Q3 of last year. Contributory factors were the slump in European chemical transport demand as high energy prices impacted chemical production and a move back to road transport took place as a result of steep increases in intermodal costs in Europe. VTG will close its transport and logistics business but retain its 5,000 unit European-focused tank container leasing business.

2023 will have quite different challenges - more consolidation, strategic initiatives by Asian operators to stretch their global presence and a calmer, more rationale market. So it will probably be a chablis rather than champagne year.

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All-time high global tank container fleet

ITCO's 2023 Tank Container Fleet Survey highlighted a record global tank container fleet and the highest ever number of new build tank containers. Several operators and lessors enjoyed record revenues but the market distortions are unwinding and 2023 will have different challenges and opportunities.

The International Tank Container Organisation (ITCO)

published its 11th Annual Tank Container Fleet Survey and estimated that, on 1 January 2023, the tank container fleet had reached 801,800 units worldwide, up 8.65% on January 2022 (which itself was an increase of 7.3% on the previous year). The global tank container fleet has therefore broadly doubled in the past seven years, indicating an average annual growth rate of 10% since 2015.

Market distortions drove demand

A record number of new build tank containers (67,865) came onto the market with a year-on-year increase of 27%. Demand was driven by continued Covid-legacy disruption and inefficiencies in the global supply chain through the year, coupled with a strong recovery in many markets.

The survey noted that during the global Covid-19 pandemic, supply chain disruption led to a shortage of tank containers and, in turn, a heightened demand for equipment by operators and beneficial cargo owners for equipment. The shortage resulted in unprecedented demand for equipment with tank container manufacturers, leasing companies and operators all achieving a particularly successful year in 2022. Instead of disposing of older tank containers (or taking them out of operational circulation), older tank containers were in many cases repaired and brought back into service (Den Hartogh, for example, partnered with CIMC Safeway to extend the life of over 1,000 tank containers). However, ITCO warns that, "as in previous global recessions, growth in the global tank container fleet could mean an oversupply of equipment this year".

Operator and lessor majors dominate

The survey shows how, numerically, the industry continues to be dominated on a global level by a relatively small number of major tank container operators and leasing companies. The top 10 tank container operators accounted for over 281,160 tank containers, representing over 49% of the global tank container operators' fleet. The top 10 tank container leasing companies accounted for 299,300 tank containers, representing about 83% of the total leasing fleet.

Reg Lee, President of ITCO, commented: "The massive disruption and challenges in the supply chain over the past three years have proved that the tank container can play a critical role in the 'Just-In-Time' business philosophy of the major end users - the shippers. With large numbers of tank containers - which over the last two years were being held on demurrage by chemical companies on a 'Just-In-Case' basis - now being returned empty to operators, pressure is being put on operators and leasing companies to maximise utilisation, and on depots to find storage space".

Shippers valuing relationships more

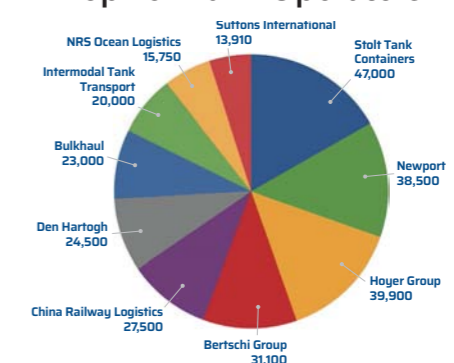
In the commentary, ITCO noted: "Based on its successful growth in recent years, the industry is continuing to attract smaller players to enter the market - often offering "niche" tank services in niche markets such as south-east Asia. However, existing operators also report a greater emphasis on the part of shippers to value relationships as a means to forge loyalty, quality and dependable supplies of tanks, moving away from the erratic spot market and on-line price-focused competitive bidding."

Reg Lee added: "This growth in demand in 2022 was fuelled by the massive disruption and challenges in the supply chain during the Covid-19 pandemic - which has underlined the critical role that the tank container can, and does, play in the logistics requirements of the tank container's major customers. This resulted in manufacturers ramping up production to meet short-term high demand. The knock-on effect of this will be an oversupply of tank containers, a reduction of new production and, possibly, an increase in the number of tank containers being disposed of. As it was not possible to guarantee regular deliveries to end-users during the pandemic, the tank container strengthened its role within a dedicated logistics supply chain, being used as a shipping tank, a road/rail intermodal tank and a storage tank".

Operator market fragmented

The top ten of the 240 or so tank container operators in the global market accounted for over 281,160 tank containers, representing over 49% of the global tank container operators' fleet of 568,760 tank containers.

Top Ten Tank Operators

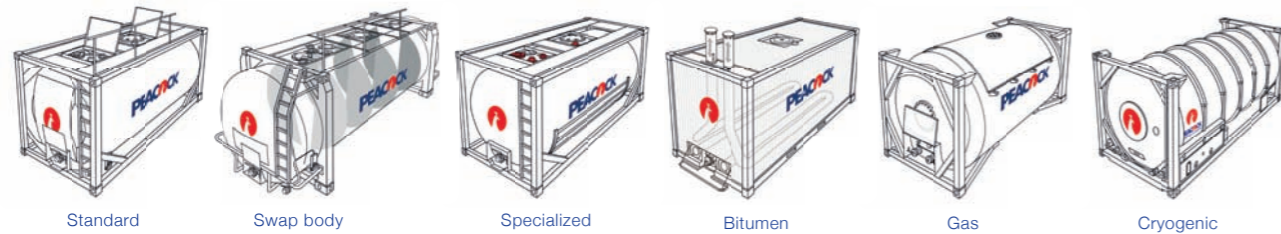


The top ten operators could be broadly split by fleet size into three tiers: Tier 1 tank container operators were market leader Stolt Tank Containers (47,000 tank containers), Inner Mongolian-owned Newport (38,500) and Hoyer (39,900). Within the overall Stolt-Nielsen business - which includes the

world's largest fleet of chemical parcel tankers and 14 bulk liquid terminals - Stolt Tank Containers was the 'star performer of 2022', delivering the majority of the group's net profit of \$281 million while accounting for only a third of Stolt-Nielsen's group revenue. →



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MARKET



The massive disruption and challenges in the supply chain over the past three years have proved that the tank container can play a critical role in the 'Just-In-Time' business philosophy of the major end users - the shippers.

Reg Lee, President, ITCO

Tier 2 was made up of Swiss-based Bertschi (31,100), China Railway Logistics (27,500), Bulkhaul (23,000) and Den Hartogh (24,500). The third tier of the major operators is made up of Houston-based Intermodal Tank Transport (20,000), NRS Ocean Logistics (15,750) and UK-based Suttons International (13,910), which completed the acquisition of VTG Tanktainer's 5,500 non-German tank container fleet at the beginning of last year. The fleets of Bulkhaul and Suttons decreased in 2022 while the largest fleet increases were made by Hoyer, with an increase of 4,400, and market leader Stolt Tank Containers, which grew its fleet by 4,000. The growth in the top ten operator fleets of 14,545 units accounted for 21% of last year's new builds.

demands of the two largest customer segments in the leasing sector i.e. the tank container operators and the large chemical majors, but the tank types making up the fleet are also important. While fleet sizes for some operators and lessors may not have changed last year, most players have been actively refreshing their fleets. This reduces the average age of the fleet and keeps the fleet technically relevant to changing market needs.

Other notable asset purchasing action came from US private equity-owned CS Leasing, which boosted its fleet by 24% to 29,150.

Triton and recently-acquisitive Peacock added approximately 10% to their fleets in 2022.

Lessor market concentrated

The top ten lessors accounted for 299,300 tank containers, representing 83% of the total leasing fleet of 360,925 tank containers. Unsurprisingly to those who visited the Chinese manufacturers in 2022 - where new Eurotainer/Raffles tank containers filled yards - the stand out asset acquisition action in the leasing sector was the 18% increase in the size of Eurotainer/Raffles fleet to 85,000 with Raffles expanding their fleet by 46% to 30,000 tank containers. The combined fleet is now by far the largest in the leasing market.

CIMC Safeway dominates manufacturing

New build numbers were at all-time highs with 67,865 tank containers manufactured in 2022. CIMC Safeway naturally dominated all others with half of all global production. Its production increased by 15% (4,475 units) on the previous year although Jingjiang Asian-Pacific Logistics Equipment (JJAP) doubled its production to 11,250 in 2022.



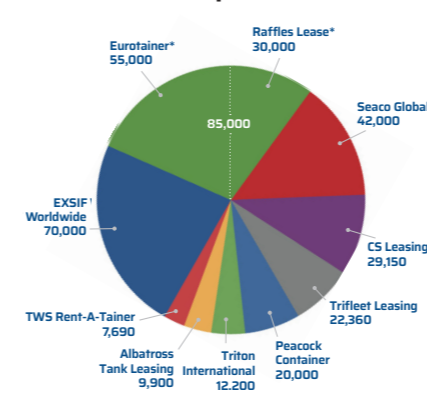
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Top Ten Leasing Companies



The investment was a clear statement of support from the consortium comprising Caisse de dépôt et placement du Québec (CDPQ) and a fund managed by DWS Group (DWS), which acquired Ermewa (the owner of Eurotainer/Raffles) in October 2021 on a joint-control, equal-share basis from SNCF, the French state transport and railway operator. Freed from the dead hand of a state national railway, Ermewa is leveraging the new-found freedom of committed ownership.

Exsif Worldwide had trimmed its global fleet from 71,350 in 2022 to 70,000 by the start of 2023 while the fleet of the third largest lessor, HNA-owned Seaco Global, remained unchanged at 42,000.

Size matters

Fleet size matters, or course, when it comes to satisfying the

Welfit Oddy continued to focus on value, rather than volume, increasing its production by 1,000 units to 5,000.

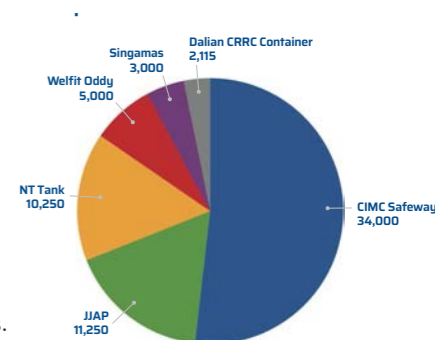
As it has been for some time, China's dominance of global tank container manufacturing is total, accounting for 90% of all of the tank containers coming out of the significant manufacturers.

2023 outlook

Looking ahead to the coming 12 months, ITCO President Reg Lee notes: "Many tanks being held by chemical companies are being returned, in part due to the easing of the supply chain problems and in part due to the cost of holding tank containers on demurrage. These include leased tank containers, which will put pressure on the leasing sector and the depots where they are stored".

What is clear is that the tank container market this year will face quite different challenges, and have different opportunities, to those in 2022. ■

Top Tank Container Manufacturers



The right platform

Many of the headaches associated with today's tank container supply chains may become a thing of the past thanks to a highly collaborative digital SaaS platform developed by Belgium-based Ovinto.

Whenever product is dispatched in tank containers there is a very strong chance that those units will spend a significant amount of any time on land being transported by rail. This mode of transport, after all, has many advantages over road, with the relative lack of congestion along dedicated routeways a clear boon in terms of getting product from A to B in a safe and timely manner.

However, given all the stakeholders involved in the international rail and intermodal supply chains - from rail operators and tank container lessors to terminal operators and freight forwarders among many others - there are still plenty of potential obstacles, barriers and bottlenecks that can lead to delays, errors and general inefficiencies, all of which can impinge on both profitability and end customer satisfaction. Fortunately, Ovinto appears to have developed an answer to all this in the form of its eponymous digital platform.

Beyond tracking

"We started in 2010 as a hardware-focussed company, looking into the tracking of rail cars," explains business development manager Paulo Louro. However, while Ovinto still has hardware on its books, its focus has changed greatly over the years and in 2018 the company took on a much more holistic approach to managing its customers' supply chain needs beyond the simple provision of tracking systems. "Today we are an integrator, promoting digital collaboration and automation of manual work between all the actors in rail and intermodal transport," he says.

A certified SAP partner and long-standing European Space Agency collaborator, Ovinto is able to do this by combining the global reach of satellite connectivity with the SAP Cloud Platform and the SAP HANA database management system. "Our tool is in the middle. It's an add-on to all the typical core Enterprise Resource Planning (ERP) systems of our customers or other stakeholders" he says.

Data in any form

When it comes to data, every tank container movement can generate significant amounts of it, whether in terms of location and sensor data from individual units or the departure times and estimated times of arrivals issued by the rail and intermodal operators. "We have a platform where everything is put together employing all the plugins you need to have data coming from whatever source of information our customers have and then bridge it to our platform," Louro continues. "We have a big translation engine that takes the data in whatever format we find it, so our customers do not need to change the way they are working." →



Connecting Rail Freight

We started in 2010 as a hardware-focussed company, looking into the tracking of rail cars. Today we are an integrator, promoting digital collaboration and automation of manual work between all the actors in rail and intermodal transport

Paulo Louro,
business development manager, Ovinto



Frederick Ronse (Founder), **Salvatore Castellano** (Co-founder & CTO) and **Hans de With** (Projects Director)

We have a platform where everything is put together employing all the plugins you need to have data coming from whatever source of information our customers have and then bridge it to our platform

Paulo Louro,
business development manager, Ovinto

Thus, instead of requiring the customer to adapt their IT systems to fit the platform, Ovinto's approach is "tell me what you have and we'll find a way to put it in our system" regardless of format, operating system or programming language. Consequently, while the majority of customers tend to use SAP, those that use alternative ERP systems can nonetheless be seamlessly plugged into the Ovinto platform without having to do anything themselves. The same applies to all other inputs, including whether a company is using its own tracked tank containers or a range of leased units employing a variety of different GPS or GSM tracking technologies.

Visibility is key

While it may be possible to seamlessly bridge all this data to the Ovinto platform, the question remains as to why someone might want to do so in the first place. The answer, Louro explains, is multifold, with the first key consideration being that of visibility. "We provide our customers with a single database where they have their full fleet of transport assets," he says, explaining that this database is populated with all the pertinent details needed to track, locate and manage all types of assets, ranging from tank containers and rail cars to reach stackers and sundry ancillary equipment.

Given the highly flexible and scalable nature of the platform, customers, he asserts, "can have any kind of metadata they want" linked to their assets as best suits their needs and operations. Thus, for example, the platform not only has the potential to see where a given tank container is - whether on or off the rail network, including on a ship bound from Rotterdam to Perth or a truck bound from Perth to an outback Australian mine - but also whether, for example, it has been loaded or unloaded and with what; cleaned or otherwise; or whether it will soon be due for testing and inspection. Meanwhile, the powerful robotic

process automation rule engine also allows users to orchestrate activities managed with other software packages to reduce manual, repetitive input in different software platforms.

Alerts and alarms

The Ovinto platform also enables customers to set whatever rules, warnings or alerts they require. This can include notifications of when a unit enters a specific geofence, such as pulling in to a terminal or crossing a national border, or the real-time monitoring of the health and condition of a consignment to ensure safety and product integrity. "You can have a whole universe of early warnings," Louro says, explaining that this could range from the relatively mundane to highly critical safety information, such as alerts triggered by the rapid heating of product or other signs of danger.

In this latter scenario, even if it is not possible to avert a potential incident, the impact can nevertheless be mitigated by the rapid application of appropriate steps facilitated by the platform, such as stopping the train or truck carrying a tank container in a suitable location and the immediate notification of the emergency services. Given the often hazardous nature of the products transported in tank containers, it may well be in the customer's interests to "create, track and set boundaries" around specific corridors to prevent high-risk product being transported through certain locations, including densely populated areas and particularly fragile or sensitive environments.

What's more, the electronic paper trail the platform provides can clearly reveal whether such rules have been respected by the rail or intermodal operator. This, combined with the chosen KPIs the system can be tailored to track, can then be used to appraise the quality of the service provided, giving the Ovinto user a clear edge in terms of procurement and contract management. "You

can use this data in your negotiation processes," Louro reports. "You can give them measurements on their actual performance."

Customer satisfaction

At the same time, the visibility the system provides means that should a shipment be delayed or re-routed, the user is immediately able to alert their customers to any potential problems. "You can warn your customer that the goods will be delivered late. You can explain the reasons and you have the data to demonstrate the root cause of the problem," Louro says, noting that such responsiveness can prove a great boon in enhancing customer satisfaction and therefore retention.

Whether used to alert external customers, internal staff, first responders or to send out notices of imminent demurrage, the automated nature of the Ovinto platform means that all processes are greatly streamlined, negating the need to call, text or email other supply chain actors as would traditionally be the case. Likewise, by greatly reducing the need for manual input, the system not only frees up staff to concentrate on more productive tasks than repetitious data entry duties, but also removes the possibility of human error when completing forms or disseminating information to the appropriate stakeholders.

Sharing is caring

Of course, such a system as the Ovinto platform requires the sharing of data, something that might alarm some given the potentially sensitive nature of the information at stake. However, such concerns are well understood and appreciated by the company, which has invested heavily "in cybersecurity and ensuring that data is protected" and never shared beyond the

boundaries set by each individual customer. "The system is well protected in terms of user management," he says. "It has very fine-grain authorisation, so we know exactly what each actor on our platform can and cannot do."

That said, Louro is aware that there is still much scope for the greater sharing of non-sensitive information among supply chain actors, something also recognised by many of Ovinto's customers. "The general consensus is that there is data that is useful for both suppliers and customers, so let's share it," he says. Thus, among other things, Ovinto is "working heavily" towards the development and acceptance of electronic consignment notes (CIM and CUV e-CNs). As well as streamlining the process of creating transport orders, these, he explains, would also help all players along the supply chain to enhance their efficiency, planning and responsiveness through ever greater visibility and the timely sharing of mutually beneficial information. ■



Katja Barthel, Marketing and Business Development Manager at **TWS Tankcontainer-Leasing**, discusses the company's focus on customer-specific problem solving and specialised tank containers.

by James Graham

Sometimes it is the small details that reveal how one business compares with its rivals. TWS Tankcontainer-Leasing GmbH has a certain je ne sais quoi when it comes to its workforce. When asked how long the longest-serving member in its 25 staff office has worked for the Hamburg-based operation, Katja Barthel, marketing and business development manager makes an interesting observation: "Our longest-serving employee is not even 40 but has been with TWS for over 20 years."

Staff remain attracted by the company's innovative developments, considers Barthel. She notes: "Our innovations are driven by individual customer requests for special projects. With every customer project, we continue to develop and face new challenges. We increase our know-how and become more innovative when it comes to solving the problems and needs of our customers."

"A few years ago, a request resulted in our HOT and COOL reefer with a built-in stirrer, because chocolate naturally has to be heated and stirred during transport in order not to burn or become hard. Elsewhere, our high cube tank container with a gradient of 4 per cent, for better unloading of viscous products, is also an in-house development and we also recently received a new patent for our fuel storage business."

The total size of the TWS fleet is 7,500 units and the utilisation rate is consistently over 90 per cent. Although the fleet is very well utilised, it still retains the capacity to serve short-term, ad hoc customer inquiries.

Barthel says: "We have product-specific tank containers with special features (including special valves, insulation and heating systems) for specialised products such as hydrogen peroxide, phosphorus, beer, hydrogen fluoride, bromine, bitumen and MDI/TDI isocyanates. →



TWS Tankcontainer-Leasing Makes it

Special

Our customer-specific solutions are highly individual and tailored to the requirements of our customers. Our tank containers can also be combined at any time with additional equipment such as spill troughs or mobile heating elements. In addition, not every customer requirement has to be a newbuild project. We can meet the demands of many projects by modifying our units. TWS offers technical support from the initial inquiry to implementation, even for smaller quantities.

"In addition to our special tank containers, we also offer our proven standard tank containers. However, when more and more special inquiries came from customers, the decision was made to set up a separate technical department at TWS in 2010, which implements customer projects in close co-operation with the TWS sales team.

"This enabled us to expand our technical knowhow even further. TWS sees itself today in the niche of implementing special customer requirements. This has been missing from the market for a long time. Our flexibility helps us a lot. We also rent special tank containers for short periods, are flexible in terms of equipment and also serve small quantities. In order to remain the leading provider in this segment, we measure ourselves against the implementation of new projects. We take care of every request and try to understand the customer's problem or need in the best possible way in order to be able to help them. We take care of the customer's problem from the beginning, so that they can be worry-free.

"Recently, our technical manager and our sales manager visited a new customer in Austria for whom special tank containers are being built according to their specific requirements. The prototype was inspected together with all those involved and the final details were discussed. At that time, a prototype high cube container with a 4 per cent slope was filled with a smaller amount of the product to see how much faster the product could be unloaded. We not only want to convince theoretically and on paper, but also through our presence with the customer and everyone involved."

For more than 30 years, the operation - headed by managing directors Gerd Peters (Chief Executive Officer) and Andreas Herbertz (Chief Financial Officer) - has worked to create a representative network of local employees who have many years of experience in the tank container industry and excellent knowledge of the market. It has no foreign offices while the business is managed centrally from Germany.

Team of experts

The company has a workforce that consists of a team of experts with decades of experience, as well as young talents. Barthel says: "We do our best to retain our employees for the long term, train them further and allow them to participate in new, exciting projects. It is important that everyone sees themselves as part of the success. Our further growth is only possible with good employees.

"TWS does not have its own depots or workshops so we can choose our worldwide partners with complete flexibility. Thanks to our experience and our foreign representatives, we can also help the customer quickly with problems abroad and offer various contact points. We also see assistance with repairs or subsequent modifications to the tank containers as an integral part of our after-sales activities.

"Normally, we provide tank containers within the European Union but we also work with logistics companies that take care of transport (truck, train, ship) for us. All this can be implemented on an individual basis."

"We have come through the coronavirus crisis very well in recent years and are now emerging from it strengthened and focused on our core competencies and would like to continue to grow healthily in the years to come. Above all, we look forward to new, exciting customer projects or product-specific orders in which we would like to invest further," she says.

The company enjoys the worldwide fleet approvals (IMDG/ADR/RID/CSC/TIR/USDOT/UIC) that allows the global deployment of its equipment. An interesting development has been the planning and developing of a patented mobile tank farm. This combination of spill trough, rack and tank container offers clients a mobile and flexible solution for a storage tank in order to realise short- and long-term projects without major investments in any existing plant. This tank can also be digitally monitored when combined with intelligent sensor technology. The tank container is technically adapted to the client's requirements.

TWS's mobile spill troughs are approved in accordance with the German Institute of Building Technology [DiBT] and the German

Federal Water Act [WHG] and offer a wide range of options. Container terminals and depots appreciate their mobility, says the company, while production sites value their flexibility. In combination with a tank container, a mobile storage tank can be created. This equipment is not only for emergencies.

The company's mobile heating and cooling systems are 'four solutions in one stroke', says the company. The mobile heating systems are equipped with couplings for up to four tank containers and can heat products with a contact temperature of up to 95°C. A glycol/water mixture is used as the liquid medium.

Management responsibilities

The management at TWS is responsible for the economically sustainable focus of TWS Tankcontainer-Leasing. Social and ethical aspects are considered equal factors in future-oriented decisions for investments in the company's constantly growing fleet. Its managing directors Peters and Herbertz pursue the aim of positioning the company as the leading provider of special-purpose tank containers on the global market.

This supports the company's claims that it builds and manages one of the most diversified tank container fleets in the world and are one of the leaders on the market for special-purpose tank containers. ■

Our innovations are driven by individual customer requests for special projects. With every customer project, we continue to develop and face new challenges. We increase our know-how and become more innovative when it comes to solving the problems and needs of our customers.

Katja Barthel,
marketing and business development manager,
TWS Tankcontainer-Leasing

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- **Strategy development** How to penetrate the petrochemical market or grow share
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Project examples:

- Provided global tank container market input for many investment decisions
- Commercial due diligence on several tank container acquisitions
- Produced world study of the tank container market and its players
- Identified tank container M&A targets
- Independent review of investment proposals for depots/cleaning stations
- Headline international keynote speaker at CIMC Symposium
- Produced quarterly 'Middle East Tank Container Market Review'
- Founding Editor, *Tankcontainer Magazine*

Leslie McCune

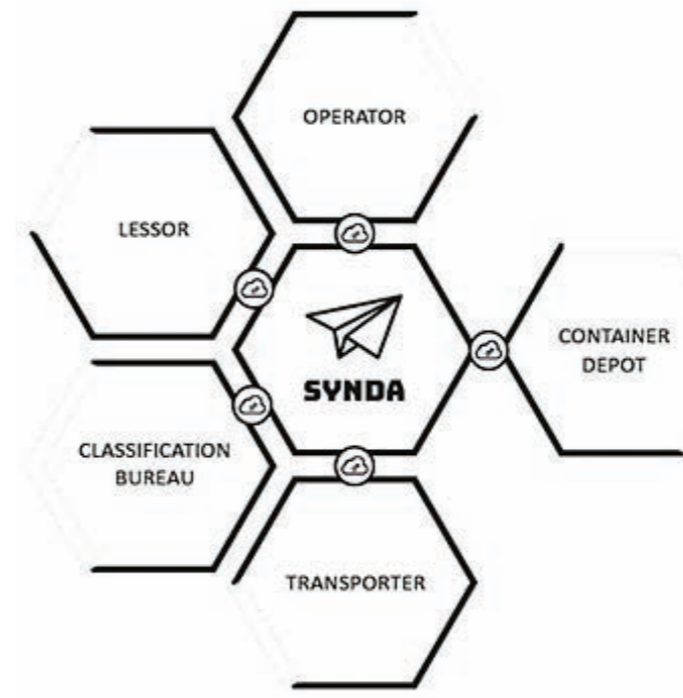
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SYNDA SIMPLIFIES EDI

A clever idea for an Information and Communications Technology product - that springs to mind when seeing the schematic of the fairly newly launched Value Added Network (VAN) of the Dutch-based Lucrasoft ICT Group. It proposes that SYNDA is a platform for the tank container industry to simplify and optimise Electronic Data Interchange between stakeholders in a specific supply chain.



The company claims that "SYNDA envisions a container industry where all stakeholders can profit from the availability of data. Therefore we provide a new centralised approach to effectively manage the exchange of data."

The SYNDA centralised platform keywords are safe in the data exchange, translating various communication systems into a standardised exchange platform for all stakeholders to use. This reduces communication and coordination. These keywords are effectively the basis of the systems new centralised approach to managing the exchange of API and EDI data.

The SYNDA concept

The SYNDA platform concept has not been developed overnight. It took product manager Gijsbert Dekker and his colleagues years to develop a dedicated tank container platform to simplify the data exchange process such that it accepts any format that the stakeholders use and translates it for use in the SYNDA platform: "By integrating multiple stakeholders to the same platform, we create a library of integrations with commonly used applications. SYNDA integrations can be reused over and over again, thus creating sustainable growth and minimizing costs."

However, many service providers offer effective data exchange solutions. Even in the late 1980's the Rotterdam-based 'electronic post office' Intis positioned itself as being the party to facilitate electronic messengers data exchange between companies in the transport sector. However, the Port of Rotterdam community did not accept the proposition that Intis would take care of the standardisation of the data exchange and act as a specialised consultant.

The rejection of the Intis concept did not therefore solve the problem of the standardising the various systems through which data had to be provided to the authorities and other stakeholders in the supply chain.

The developers of the SYNDA concept were aware of this and also of the need to develop software to connect new and existing parties within the network, including many in the rapidly-digitising tank container industry. In general, the focus is on Custom documentation, other regulation requiring data exchange, and other EDI and API data integration between the parties involved. →

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It is acknowledged that the EDI interfaces between the various players in the transport and tank container industries are cluttered and riddled with a variation. There is, however, any open question about which party will foot the bill for the development of the required data integration.

SYNDA provides the solution to all of that. Initially, further development of the tank container platform could be moved forward on the basis of the DEPOT Software package that 120 dedicated sites already use. The SYNDA developers visited the ITCO trade fair in Munich and the Transport & Logistic Fair in Munich to explore business developments in the sector.

The platform developers established that 15% of parent company Lucrasoft's customers use the DEPOT Software. These customers have therefore already used the appropriate software to subscribe to the new SYNDA platform as a Value Added Network.

The Lucrasoft website explains: "During the development of a Value Added Network (VAN) initiative, and subsequent customer pilots, the Lucrasoft ICT Group realised that vendor-independent open formats were needed for various connected development parties associated with the tank container industry. There were also many gaps in existing classic data exchange formats, which prevented important business processes such as pre-announcements for tank container service providers. Open Tank Format (OTF) is the result of efforts to resolve these issues."

In short, the new Lucrasoft software product, SYNDA, can act as an intermediary, preventing the variation in data between particular stakeholders. The platform also avoids the mistakes that are likely to be made when specific data to be issued have to be copied by hand. The SYNDA integrations can be reused over and over again, thus minimising costs.

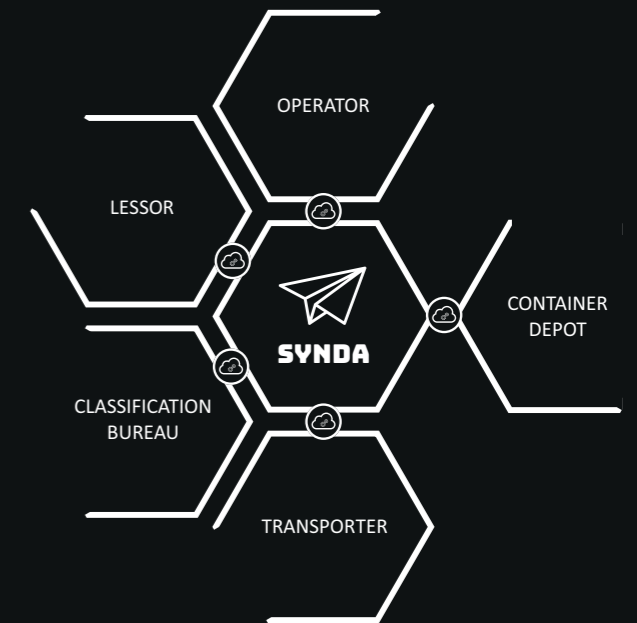
Tank container depot focus
Product manager Gijsbert Dekkers adds: "Last year we decided to have the SYNDA platform focused on the tank container depot sector, bearing in mind that the sector still uses various communication systems. There is an awareness of the costs of mistakes in providing required data and that of labour time involved in prior notice of arrival at the tank container depot. Many parties involved find it unclear who of them will start the process of standardisation of data exchange." The SYNDA platform solves this uncertainty and safeguards its safety using Microsoft Azure.

SYNDA is used as a customised data exchange platform by Peacock Tank Container Leasing & Rental, Bureau Veritas, Trifleet Leasing Holding, Kees in 't Veen Tanktransporten and others. ■



SYNDA

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Tank container traffic at the **Port of Tarragona** may not be the headline activity it is at many other ports but the Spanish Mediterranean port is doing its best to be attractive to tank container users.

by James Graham

The current rail services offered by the Port of Tarragona are very attractive to customers who move their goods in tank containers. One of the best examples is the rail link that connects the port with Valencia and Andalusia, which is widely used by companies that transport liquids in tank containers.

The future arrival of the Mediterranean Corridor in Tarragona, planned for 2024, and the development of rail connections it is undertaking from the Port of Tarragona, will allow the port to considerably expand rail traffic in the coming years.

Fifth best port in Spain

Bulk cargos have historically been the Port of Tarragona's main traffic. The good performance of both liquid and solid bulks has made it possible to reach fifth position and Tarragona is currently the port with the greatest growth among all the Spanish state ports, says the port's management.

"On the one hand, the recovery in production and demand in the petrochemical sector and, on the other, slight growth in the agri-food sector and a recovery in the solid bulk energy sector, has helped us achieve this position. It is also important to underline

the important role played by general cargo, a traffic that has been growing year-on-year and is allowing port activity to be diversified in Tarragona," the management notes.

The train in Spain

Last year the port handled over 80,000 TEUs. In terms of maritime transport, the percentage of tank container movements is not very significant for the services that operate in the port. In contrast, what is more interesting, is the data for the movement of TEUs by rail, in which the percentage transported in tank containers exceeds 30%.

"The promotion of, and an increase in, rail use are two of the Port of Tarragona's strategic objectives and results such as this demonstrate the success of the policy," says the management.

The operations carried out at the Chemicals Wharf Rail Terminal are basically from/to conventional bulk liquid rail wagons. This is one of the infrastructures that the Port of Tarragona aims to improve in the future in order to increase the use of the railway in this sector. These rail lines connect with three Iberian gauge lines. →

Tank containers take their place at the **PORT OF TARRAGONA**



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This is a significant hurdle for the management as the railway gauge in Spain is the Iberian gauge of 1.668 mm (5 ft 5 and 21/32 inches). This is common to Spain and Portugal. Across the northern border with France, however, and in much of western Europe, the Port of Tarragona's hinterland, the standard gauge is 1.435 mm (4 ft 8 and 1/2 inches).

This change-of-gauge can hinder cross-border rail shipment of tank containers but is being worked on by rail authorities on both side of the border. This is demonstrated by work being undertaken in Spain by RENFE to construct new, standard gauge lines for traffic on both sides of the border.

The port's 46 km of three internal rail lines support intermodal traffic, including tank containers, to and from the port and the operational wharves. The third line, connected to the train line to Valencia, runs through the Hydrocarbons Wharf, and on to the Andalusia, Cantabria and Galicia Wharves. At the Galicia Wharf, there is the Boella Intermodal Terminal, next to the container terminal. This line also serves the areas of the Port which have general freight, such as the vehicles terminal, a multi-use terminal and the future Logistic Activities Zone (ZAL).

The intermodal terminal of the Port, currently called La Boella, is an intermodal freight rail terminal with both national and international origins and destinations. The terminal is a public terminal at the moment, open to all types of freight. Its activity, and its intermodality, are both connected to rail and rail transport. From the receipt or delivery of goods to units of multimodal transport, with or without maritime connection, it is closely linked to the rail network.

The container terminal in the Port of Tarragona is managed by DP World. In addition, the Port of Tarragona is the closest port to the Ebro Valley logistics area, and has good rail connections with the whole Iberian Peninsula and the north of Europe. Its location facilitates and optimises land transport and its distribution between the loader/recipient and terminal, since the terminal is well connected to the entire road network and has easy entry and exit access.

Alas, for a country world renowned for its Rioja and other wines, no wine transported by tank container is moved over the port. The management note that: "There is wine traffic but it moves in other forms of transport," meaning that what wine is handled will either be bottled and shipped in general purpose box containers or loaded in bladder tanks in ocean containers.

Petrochemical sector

The main traffic at the port comes from the petrochemical sector and, due to this importance, the Port of Tarragona is working on a daily basis to improve the infrastructure and services associated with it.

The port is the gateway for all the raw materials needed by the territory's petrochemical sector and also for a large part of this sector's exports to other countries. The management says: "We are a port with experience in the management of hazardous goods, a variety of the terminals and facilities necessary for this type of traffic, and coordination with other organisations in the territory to foster continuous improvement. Although most of this traffic is bulk, we are working to allow more tank containers to use our port via both rail and container carriers. "Most of the terminals that handle liquid products have facilities for loading and unloading tank containers." →

The promotion of, and an increase in, rail use are two of the Port of Tarragona's strategic objectives and results such as this demonstrate the success of the policy

Port of Tarragona




Port Tarragona


In 2014, the landside area of the Chemicals Wharf was expanded from 18 hectares to the current 36 hectares in a major investment made by the Port of Tarragona. This has allowed a year-on-year growth in tank storage capacity.

The wharf has seven berths, an operational draught of more than 15 metres and the possibility of carrying out berth-to-berth operations, thanks to the Dixquimics pipeline system, which connects the berthing points to the terminals that operate there and the companies based in the southern chemical industrial estate.

In the liquids sector, all the terminals manage their own cargos, using workers specialising in that type of operation.

ChemMed Tarragona cluster

This is a group made up of the Port of Tarragona and the AEQT (Chemical Business Association of Tarragona). Its aim is to attract new investment from the petrochemical sector to the territory, especially in relation to the new energy opportunities in this period of energy transition.

Tarragona houses the largest chemical hub in southern Europe with annual production of 20 million tonnes. The Port of Tarragona plays a key role in the competitiveness of this hub. It is one of the deepest ports in the Mediterranean and a major logistics platform for Catalonia with a total annual through put in excess of 31 million tonnes, 19 million tonnes of which are petrochemicals.

The chemical cluster in Tarragona consists of the south and north parts, which are linked to the nearby port via road and pipeline. The main raw material - crude oil and natural gas - are all imported. Natural gas is imported in the form of LNG and then processed in several gasification facilities along the coast around Barcelona and Cartagena. Natural gas is also provided via the Trans Pyrenean pipeline link Calahorra from Lacq in France, and from the Maghreb-Europe Gas pipeline from Algeria to Spain.

Crude oil is provided by ship from various sources to several terminals. The Tarragona cluster is linked to the Spanish natural gas distribution network.

Many substances are produced within the chemical cluster, including monomers; cracking products; inorganic products; chlorinated products; industrial gasses; polymers (plastics, composites); final products; specialties; intermediates and crop protection formulations. ■



"GROWING DIGITALISATION contributes to a smoother supply chain"

The **Transport Logistic** exhibition in **Munich** is a bustling event where logistics and transportation professionals from all over the world gather to showcase their latest innovations and services. The team of **Royal Den Hartogh** will be present at the **"ITCO" Tank Container Village** in **Hall B4 stand 221/322. →**



This exhibition is an incredible opportunity for Den Hartogh to showcase our worldwide services and connect with industry professionals.

Jacco van Holten,
Director Commerce, Royal Den Hartogh

Director Commerce, Jacco van Holten, tells us: "This exhibition is an incredible opportunity for Den Hartogh to showcase our worldwide services and connect with industry professionals. We understand that the logistics industry is constantly evolving and it's vital to stay connected with the chemical industry throughout Europe."

Smarter Logistics. We're better together.

Royal Den Hartogh is a leading global logistics service provider that specialises in the safe and efficient transportation of bulk liquids and gases in tank containers. The company has been in operation for over a century and during this time it has developed a deep understanding of the unique challenges that come with handling and transporting bulk liquid and dry bulk chemicals.

With a global network Den Hartogh is able to provide its services for a wide range of industries. Skilled professionals spread over 50 locations in 27 countries are dedicated to providing the highest level of customer experience and are committed to ensuring safe, efficient and sustainable transport. Collaborating and working together is rated high at Den Hartogh.

Safety and Sustainability

At the core of Den Hartogh's approach to tank container logistics is a commitment to safety. The company employs strict safety protocols and uses state-of-the-art technology to ensure that all tank containers are transported and handled safely. This includes using specialised equipment to load and unload tank containers, as well as employing highly trained and experienced drivers and logistics personnel who are well-versed in the safe handling of hazardous chemicals.

The company is committed to reducing its environmental impact and uses a range of strategies to achieve this goal. By 2050 the company aims to be carbon-neutral and expects to achieve a 25% carbon footprint reduction by 2025. Dedicated programme managers are added to the team and collaborate with internal colleagues and external stakeholders in order to stay on track to reach these challenging goals. ➔





Jacco van Holten,
Director Commerce, Royal Den Hartogh

“Measurements of emissions from our services have been integrated in our transportation management systems and they comply with the framework developed by the Global Logistics Emissions Council (GLEC).”

Jacco van Holten,
Director Commerce, Royal Den Hartogh

Van Holten: “Measurements of the emissions from our services have been integrated in our transportation management systems and they comply with the framework developed by the Global Logistics Emissions Council (GLEC). This makes our footprint, and the positive effects of initiatives to reduce it, clear for our clients and our employees so that they also continue to be actively involved in the journey and proposing ideas and actions for further improvements.”

Pushing ahead with its sustainability ambitions is also realised with the addition of Volvo FM Electric trucks to the fleet. The company has purposely chosen the lightest possible electric trucks with maximum load capacity, without compromising safety and driver convenience. Besides the fact that the trucks are electrically powered, it also helps that the chassis of the Volvo FM is made from fossil-free steel to help reduce the CO2 footprint.

Data becomes knowledge

Den Hartogh recognised in an early stage that just gathering data was not enough. Turning data into knowledge and sharing that knowledge is a key differentiator. “The growing opportunities afforded by digitalisation contribute to a smooth and efficient supply chain,” continues Van Holten. “This provides our customers and suppliers with visibility and predictability, and gives our employees more control and fewer surprises during the work.”

Smart Tank Containers

“We launched the first version of our web portal with transport visibility in 2020. Since then, we have constantly been adding more features on the basis of input from our clients,” explains van Holten. The entire fleet of tank containers used to transport isocyanates has been fitted out with telematics systems. Van Holten: “Those are smart tanks that are monitored continuously. We also spent two years working with our clients to develop ShuntPlan, a digital tool to get the right truck to the right production location at the right time. That tailored solution has exceeded all our expectations.”

Your way into a more Sustainable Future

Mark your calendar for the Transport Logistic 2023 exhibition in Munich and be sure to come and see Den Hartogh at their booth in the Tank Container Village. This is the right opportunity to hear what the team at Den Hartogh is working on, and to discuss how they can help your business grow and thrive in today's rapidly evolving logistics landscape. See you there! ■

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