

## REVIEW OF THE YEAR

Market dynamics, prices, trends and corporate activity in the global tank container market in 2024. P18

## ITCO

Under new and more inclusive leadership, ITCO's fleet survey shows fleet growth of 4%. P22

## MARKET

Russia's war against Ukraine has slowed the development of Ukraine's tank container market P26

## FINANCE

Where and why have private equity and asset management groups taken positions in the tank container market? P29

Volume 12 | Issue 1 | March 2025

# Tankcontainer

## MAGAZINE



**Richard Shaw**, Managing Director at **MRI Intermodal Software**, tells *Tankcontainer Magazine* how the company is leveraging its MRI Agora platform, its acquisition in India and the company's long-standing tank container experience to deliver leading-edge automation, analysis and integration software for its customers.

**Richard Shaw**,  
Managing Director,  
MRI Intermodal Software

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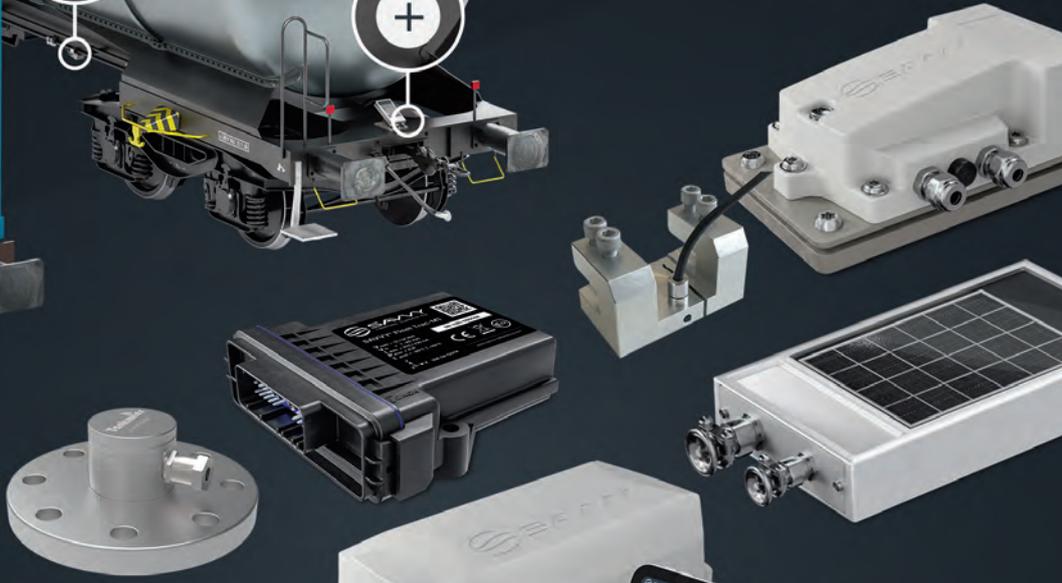
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- ✓ Load detection

Leslie McCune, Editor

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## Modest fleet growth despite a tough year



The tank container market 'Review of the Year 2024' (Page 18) paints a picture of what was a tough year

for global tank container lessors, operators and manufacturers. Depots, however, benefited from a wave of under-utilised equipment looking for storage and had a good year - many in Europe and key hubs such as Shanghai in China are finding it difficult to accept more tank containers.

Although there were hot spots, overall tank container demand was down, as was utilisation, as the chemical industry struggled, most markedly in Europe. ■



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### REVIEW OF THE YEAR



2024 Review of the Year: The Good, the Bad and the Ugly. It was a tough year for many in the tank container sector. Leslie McCune explains why. **18**

### ITCO



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The Ukrainian tank container industry is understandably developing slowly due to the ongoing war and tough business environment in the country. **26**

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# Tankcontainer MAGAZINE

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## Tankcontainer MAGAZINE

Richard Shaw, Managing Director at MRI Intermodal Software, tells *Tankcontainer Magazine* how the company is leveraging its MRI Agora platform, its acquisition in India and the company's long-standing tank container experience to deliver leading-edge automation, analysis and integration software for its customers.

**MRI delivers hard benefits from software**

## The single information source for the International Tank Container Industry

The Tankcontainer Magazine was developed with the aim of supplying the market with well researched and written editorial features and analysis.

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## Modest fleet growth *despite a tough year*

The tank container market 'Review of the Year 2024' (Page 18) paints a picture of what was a tough year for global tank container lessors, operators and manufacturers. Depots, however, benefitted from a wave of under-utilised equipment looking for storage and had a good year - many in Europe and key hubs such as Shanghai in China are finding it difficult to accept more tank containers.

Although there were hot spots, overall tank container demand was down, as was utilisation, as the chemical industry struggled, most markedly in Europe.

Supply chains were distorted by volatility, uncertainty, complexity and ambiguities. This year, threatened and actual tariffs ('the most beautiful word in the world') will inevitably breed uncertainty in our new power-based, as opposed to rules-based, trading environment.

Market unpredictability plays, of course, to the key strengths of tank containers: transport flexibility and temporary storage. These benefits help bring underlying support for demand in a weak and unreliable market but these characteristics will always be less preferable than a stable market with predictable trade flows along well-established supply chains.

In this issue we also explore the impact that **asset management** and **private equity** groups are having in the financing of the tank container industry and explore the debt and equity financing options deployed by tank container companies. We highlight the reasons why tank containers are an attractive asset class for mid-market infrastructure funds with \$200-\$400 million to invest and give examples of some of the positions that asset managers in particular have bought into.

Leased tank containers are an attractive asset class for investors because they are well-regulated, high volume/low value assets with a solid risk/return profile supported by 3-5 year medium term contract lengths which typically have a greater than 80% renewal rate. They offer recurring income streams and predictable cash flows, are a natural hedge against inflation, are used by customers with excellent credit worthiness and have a very low risk of becoming stranded assets. Lastly, but importantly, the environmental and sustainability profile of tank containers is favourable.

Private equity interest in tank container operators is unusual, a notable exception being the structured equity stake taken by publicly traded Apollo Management in Houston-based Intermodal Tank Transport (ITT) in 2023.

ITCO's annual fleet survey (Page 22) reported a 4% increase in the global tank container population to 882,023 units, as of 1

January 2025. This was half the average annual growth over the past decade, reflecting a sharp decline in chemical production, low economic growth and a normalisation after the huge demand for tank containers in 2021 and 2022, caused by the supply chain disruptions associated with the Covid-19 pandemic.

Most of the 2024 fleet growth came from operators while leasing company fleets remained little changed with CS Leasing notable for adding 2,050 tank containers to its fleet.

The industry organisation was encouraged to see the tank container fleet continuing to grow ahead of global GDP growth and noted a gradual change from global supply chains to more local-for-local sourcing, where tank containers can play a vital role in moving bulk liquid products to more isolated customers where infrastructure is less developed.

Quite separately, we would like to thank the many people in the industry who gave such positive feedback on our 'Understanding tank containers' series. It featured simple introductions to four key topics: **T-Codes and Tank Types, Leases, Cash-on-Cash Yields and Utilisation**. These topics were chosen to help broaden the awareness and understanding of the tank container industry - and encourage young people into the industry - and are still available **free-of-charge** from [lm@chemicalmanagement.co.uk](mailto:lm@chemicalmanagement.co.uk).

Lastly, we would like to salute a fellow trade magazine - Hazardous Cargo Bulletin (HCB). After 45 years, HCB has printed its last magazine, following its acquisition by an online safety information company. The magazine has been a career companion for many - of a certain age - in the chemical supply chain sector and reported across the whole spectrum of chemical transportation modes with authority and consistency.

For the many who prefer the tactile and convenient pleasure of print media, the demise of HCB's printed magazine removes another source of tank container information. However, fear not - *Tankcontainer Magazine* continues to be available on subscription in both print and online formats and, after 11 years, continues to be the **only trade journal exclusively focused on the global tank container industry**.

Our thanks to all our many contributors, subscribers and advertisers who have enabled us to keep on providing tank container insights and market intelligence over the years. Contact the publisher, Ed Andrews, on [ed@tankcontainermedia.com](mailto:ed@tankcontainermedia.com) for advertising rates. ■

**Leslie McCune**, Editor

Annual Production  
12000 TK



01

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- ✓ 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
- ✓ 300+ patents
- ✓ 350+ engineers

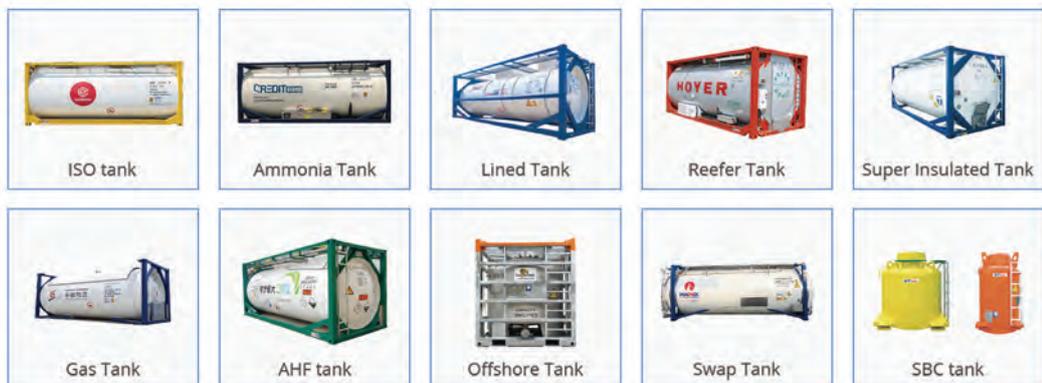


## Nantong Tank Container Co., Ltd

Established in May, 2007, NANTONG TANK CONTAINER CO., LTD (NTtank) is a professional ISO tank container manufacturer located in Nantong, Jiangsu, China, close to Shanghai.

NTtank supplies both standard ISO UN Portable tanks and customized special tanks, with annual capacity of 8,000 standard ISO tanks and 4,000 multi-type special tanks, like SWAP Tanks, Reefer Tanks, Electrical Heated tanks, Different lining tanks (rubber, PE, Teflon, Chemline, Saekaphen, etc.), AHF acid tanks, Hydrogen peroxide tanks, Metallic Sodium tanks, High purity ammonia tanks, T20/T22 tanks, T50 gas tanks (ASME U and U2 stamp), offshore tanks and other small pressurized / none pressurized IBC for liquid products transportation.

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## Mega-Inliner International Group & Baetsen-Groep Unite for Sustainable Logistics Innovations



**Veldhoven, 3rd of February 2025**  
**- In a significant step towards revolutionizing the non-hazardous liquid bulk logistics industry, Mega-Inliner International Group & Baetsen-Groep announced their strategic partnership.**

This collaboration aims to drive sustainability, competitive and innovation in logistics, particularly for Mega-Inliner International Group customers and prospected shippers of non-hazardous liquids such as AB-InBev, Heineken, Döhler, Cargill, Royal Swinkels, Asahi among others who are seeking cutting-edge costs and sustainable solutions in an evolving marketplace.

As conventional liquid bulk logistics service providers struggle to keep pace with innovation, Mega-Inliner International Group recognized a pressing demand among shippers for improved cost efficiency and sustainable practiced solution. Conducting extensive market research, Mega-Inliner International Group identified a compelling opportunity to integrate business operations with a logistics partner capable of providing comprehensive all in one supply chain solutions. This vision includes establishing a strategically located Mega-Inliner Supply Chain Services depot, equipped for tank container

operations and capable of future warehousing for European Mega-Inliner® drop shipments.

Baetsen-Groep, founded in 1960 and based at Locht 100 in Veldhoven, serves as the ideal strategic partner for this initiative. Renowned for its customer-centric and sustainable approach, Baetsen-Groep is a leading provider of logistics and transport services. Offering an array of solutions, including transportation, warehousing, and dedicated logistics management, the company prioritizes technological innovation and streamlined operations to ensure reliability and competitiveness in the market.

The synergy between Mega-Inliner International Group and Baetsen-Groep is poised to deliver unmatched cost efficiencies and sustainable practices to shippers. Baetsen-Groep's capability to electrify all non-hazardous bulk liquid transport movements within the Benelux region, combined with their fleet of state-of-the-art conventional trucks, sets a new standard in eco-friendly logistics. By incorporating the Mega-Inliner® System, shippers can expect proven significantly lower costs and reduced CO2 emissions per metric ton or hectolitre of product transported.

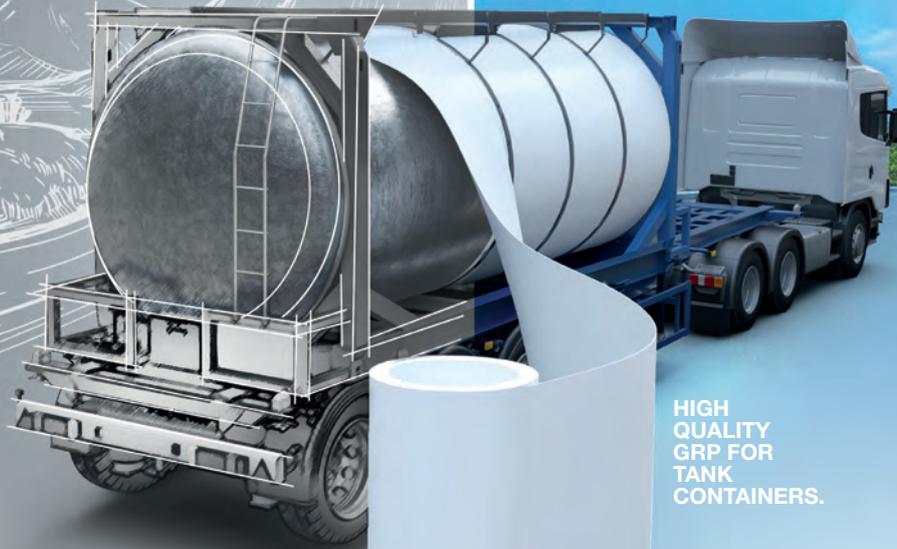
This partnership is not just about logistics; it embodies a commitment to sustainability. Both companies recognize that collaboration is essential for transforming the industry. Mega-Inliner Supply Chain Services, with the backing of Baetsen-Groep, is set to introduce this groundbreaking proposition to customers and prospects in the Benelux region. This initiative aligns seamlessly with the collective sustainable vision of both companies and supports customers and prospected shippers in their environmental efforts and support to do so.

As we embark on this journey, we are excited about the potential to redefine the landscape of non-hazardous liquid bulk logistics. Together, Mega-Inliner International Group and Baetsen-Groep are pushing boundaries to create a more sustainable, efficient, and innovative future for the non-hazardous bulk logistics industry.

We are excited to elaborate further on this press release and discuss the sustainable synergy effects of our united effort within the non-hazardous bulk liquid industry. We invite members of the press to reach out for interviews, where we can provide more detailed insights into our collaboration and its impact on the industry. Please contact us to schedule a time for discussion. ■

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- \* ISO 45001:2018
- \* ISO 14001:2015
- \* ISO 22301:2019
- \* ISO 37001:2016
- \* Gulf SQAS
- \* ITCO Member



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## ITCO Tank Container digitalisation and efficiency meeting

The **ITCO Tank Container Digitalisation and Efficiency Meeting** will be held at the **Hilton Antwerp Old Town** on **Thursday 10 April 2025**.

The event begins with a **Networking Welcome Reception** on the evening of **Wednesday 9 April 2025**, offering participants the **perfect opportunity to connect ahead of the main conference**.

The Full-Day Conference on Thursday will feature distinguished speakers and discussions focused on digitalisation projects, insights from ITCO's Digitalisation Work Groups, and updates on key industry projects.

The meeting will conclude with a post-conference reception, providing further opportunities to network.

### Conference Highlights

Explore how cutting-edge technologies have the opportunity to transform the tank container industry, driving efficiency, and reducing costs.

*Key Topics Include:*

- Port of Antwerp-Bruges: Introduction to the Port, Digital Twin applications, AI innovations, and the evolution of a digital port.

- Developments in Digital Trade: Insights from the Digital Container Shipping Association.
- Nallian & NxtPort: Use cases and platform advancements.
- BIC Initiatives: Promoting safety, standardisation, sustainability, and efficiency through digitalisation.
- ITCO Digital Twin Project: Progress and future prospects.
- Trusted Carrier Program: Including case study with major chemical shipper.
- Global Trucking Standards for Tank Containers: Updates and implementation strategies.
- Depot Innovations: Exploring digital applications in tank container depots.

### Registration Details

Register now to attend this pivotal industry event!

*Registration Fees:*

- ITCO Members: €395.00
- Non-Members: €695.00

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- Welcome Reception and Buffet Dinner
- Conference Sessions
- Lunch and Coffee Breaks
- Post-Conference Reception



## New ECTA Best Practice Guideline Publication

*In cooperation with Cefic and FECC*

### ECTA-Cefic-FECC guidelines for safe working at height in the chemical logistics supply chain

The risks associated with working at height requires all parties involved in loading, unloading, storage, cleaning, repair/maintenance and shipping/rail terminal operations to introduce safe systems of work, based on risk assessment and management.

These guidelines, which have been developed by industry experts, aim to promote best practice guidance for safe working at height in the entire chemicals supply chain.

With regards to the number of serious incidents (see EU-OSHA statistics), personal injuries, and near misses that are encountered in the logistics supply chain with various types of equipment and locations, the authors (ECTA/Cefic/Fecc) feel it is imperative to develop these working at height guidelines to assist in the overall reduction of falls from height that can cause death and injury. ■

## MAK container joins International Tank Container Organisation for 2025



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MAK Container has announced its official membership in the International Tank Container Organisation (ITCO) for 2025, marking a significant milestone in its ongoing journey of excellence in the ISO tank industry.

This membership underscores MAK Container's commitment to upholding the highest global standards of safety, efficiency, and innovation. By aligning with ITCO, the company aims to further enhance its ability to deliver reliable, cutting-edge solutions to customers worldwide.

MAK Container's dedication to "bridging continents and connecting opportunities, one ISO tank at a time" is at the core of its operations. Joining ITCO strengthens the company's resolve to adhere to best practices, ensuring that its customers benefit from unparalleled service and reliability.

The company credited this achievement to the unwavering support of its team, partners, and customers. MAK Container looks forward to leveraging this opportunity to make 2025 a year of growth, success, and global impact. ■



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## Bertschi Zhangjiagang Wins 'Outstanding End-to-End Supply Chain Service Enterprise' Award



Bertschi ZJG Receiving the Outstanding End-to-End Supply Chain Service Enterprise' Award during the Global Chemical Supply Chain (China) Summit

Bertschi Zhangjiagang has been recognized as the "Outstanding End-to-End Supply Chain Service Enterprise of the Year 2024" at the Global Chemical Supply Chain (China) Summit, held on November 21, 2024, in Shanghai. This award, decided through a selection process involving leading chemical manufacturers and logistics experts, highlights Bertschi's ability to deliver safe, innovative, and reliable supply chain solutions.

Bertschi Group, a Swiss multinational logistics service provider, is renowned for its best-in-class chemical logistics solutions. The company's Zhangjiagang Liquids Chemical Hub, situated in the heart of the Yangtze River

Delta, offers a one-stop-shop for the transport, storage, and handling of chemical products. The modern and safe dangerous goods facility offers a capacity of 50,000 tons storage and over 500,000 tons annual throughput capacity for a wide range of chemical products, with a special focus on dangerous goods. Its location ensures seamless connectivity to global transportation networks and an efficient distribution of chemical products across China and beyond. The Global Chemical Supply Chain (China) Summit is the most influential event in the Asia-Pacific chemical supply chain sector, bringing together nearly 600 senior executives from across the industry. The summit served as a premier platform for discussing industry trends and innovative supply chain solutions.

Bertschi offers a distinct edge in supply chain solutions with specialized expertise in chemical logistics, ensuring safe, compliant, and efficient transport, storage, and packaging of liquid chemicals. Their integrated end-to-end services provide comprehensive supply chain management, from storage to delivery, tailored to the unique needs of chemical manufacturers.

By combining global operational standards with in-depth knowledge of the Chinese market, Bertschi delivers safe, reliable, and high-quality service with local flexibility. Such integrated concepts enable Bertschi's customers to export bulk liquid chemicals to China using tank containers, with the option to delay packaging into the end market. Additionally, they allow for delivery to customers in China using bulk ISO tanks from Bertschi's Zhangjiagang Isotank farm, avoiding the high fixed costs associated with shore storage tank rentals.

"This award is a reflection of our team's ability to deliver reliable and innovative supply chain solutions. We are proud to be recognized by industry leaders and remain focused on supporting our clients' success in the chemical supply chain sector," said Jemmy Wu, Managing Director for Bertschi Zhangjiagang. ■

### About Bertschi Group



Bertschi Group is a global logistics service provider for the chemical industry specializing in liquids and dry bulk transportation. The family business, headquartered in Switzerland, was founded in 1956 and generates an annual turnover of 963 million Swiss Francs. The Group has over 3,250 employees working across 76 subsidiaries in 39 countries, providing high-quality logistics services and local customer support. Bertschi operates a fleet of 47,000 tank and dry bulk containers, 1,000

trucks, and 30 container terminals. The company is market leader in European intermodal transportation of chemicals by rail, road, and waterway. Bertschi is furthermore one of the leading worldwide providers of tank container transportation and supplementary value-added logistic services for the chemical industry. Major subsidiaries of Bertschi outside of Europe are in Shanghai, Singapore, Houston, Sao Paulo, Dubai, Al-Jubail (Saudi Arabia), Tokyo, Seoul, Kuala Lumpur and Istanbul. ■

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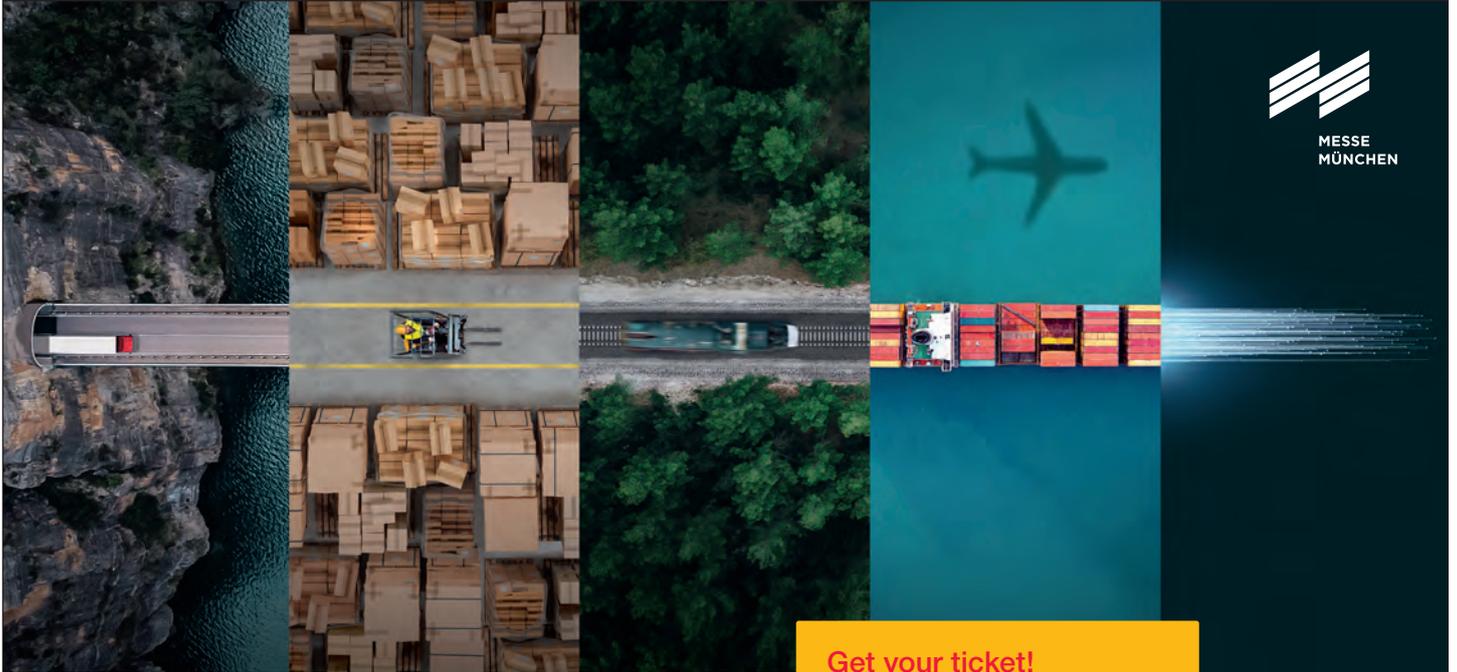
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## Chane Terminal Marseille brings new flexibility to storage with ISO tank



**Chane Terminal Marseille has taken a bold step in a traditionally conventional market by launching its new ISO tank platform. Strategically located between the Marseille and Fos-sur-Mer container terminals, the facility has been operational for a year and a half and is now prepared to support new customers with safe, reliable, and efficient storage solutions.**

Sales engineer Aurélien Jakalski further explained the benefits of ISO tank containers, emphasising their multimodal capabilities: "ISO tank containers can be transported via road, rail, or sea and stored without the need to transfer the product to other vessels or even open the container. We firmly believe in the significant value our ISO tank platform, combined with our regular tanks, can bring to customers. We're seeing strong interest from the market."

Chane Terminal Marseille offers a unique solution in the region, with the ability to store raw materials, finished products, waste, and goods under customs control, including excise-duty-regulated items such as alcohol and fuel. Jakalski noted that safety remains a key differentiator: "There are no other ISO tank service providers in the south of France that offer this level of security. Currently, some ISO tank users in the region are storing their products in non-authorised and unregulated locations, posing significant safety and financial risks. As a Seveso-classified site, Chane Terminal Marseille adheres to the highest safety standards. In the year and a half since opening, the ISO tank platform has recorded zero safety incidents."

Another advantage of the facility is its strong connectivity. Jakalski explained: "Our platform is connected to the railway network and is located near the industrial clusters of Berre-L'Étang, Fos-sur-Mer, and Lavera. This allows us

to support multimodal logistics, giving customers access to multiple and more sustainable transportation options."

Chane Terminal Marseille continues to engage with both current and potential customers, encouraging them to consider the broader possibilities of storage solutions. Fischer added, "We tell them: think beyond the possibilities of just tanks or just ISO tanks. Both offer distinct advantages, and combining them can be a valuable addition to logistics chains. Right now, we are working to develop that awareness and introduce this innovative solution to the bulk storage market in the south of France."

With its forward-thinking approach, Chane Terminal Marseille is setting a new standard for flexible, secure, and sustainable storage solutions, reinforcing its position as a key player in the region's logistics sector. ■

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## Den Hartogh achieves gold rating on EcoVadis



Royal Den Hartogh Logistics has been awarded a Gold rating by EcoVadis, reinforcing its position as a leader in sustainability within the logistics industry. This prestigious recognition underscores the company's commitment to

**high standards in environmental, social, and governance practices, distinguishing it from competitors.**

EcoVadis, a globally recognised sustainability rating platform, evaluates more than 100,000 companies annually across four key areas: Environment,

Labour & Human Rights, Ethics, and Sustainable Procurement. Its sustainability scorecards offer detailed insights into ecological, social, and ethical risks across 200 industries and 175 countries, providing business partners with transparent assessments via an online platform.

### Journey to Gold

Over the past year, Den Hartogh significantly improved its sustainability performance, increasing its score from 55 to 75 points and placing the company in the top 5 percent of all EcoVadis-rated organisations. The most notable improvements were in Environment and Labour & Human Rights, both increasing by over 25 points. In particular, the company achieved an impressive 86 points in the Environment category, marking its highest score to date.

This Gold rating reflects Den Hartogh's continuous efforts to drive sustainability in logistics, ensuring responsible business practices and a long-term commitment to environmental and social impact. ■

## Den Hartogh achieves gold rating on EcoVadis

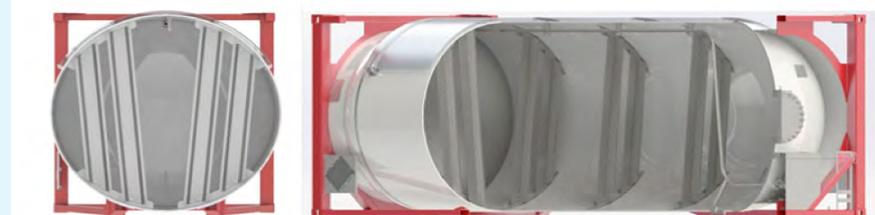
In close cooperation with our partner CIMC, Trifleet just had his first batch of newly build (T50) gas tanks delivered where the baffles are mounted in a vertical V-shape. By doing so, we substantially reduced the safety risks involved. With these baffles, one can more easily enter the container for inspections and maintenance works. And in the event of a safety incident, assistance to or recovery of the person involved is much easier. Also, this design has a improved surface coverage of 60% to 65% compared to the 50% coverage of the current design.

Trifleet and its employees strive towards sustainable excellence and always take that extra step to deliver the best. Together we are creating a safer and more sustainable global supply chain. As a GATX company,

Trifleet is championing the well-being of our employees and communities. One of the critical safety concerns is the risk associated with entering tank containers for inspection, maintenance, or cleaning. Confined spaces within these containers pose hazards such as oxygen deficiency, exposure to harmful substances, and the risk of explosion. Regulatory bodies have responded by mandating stricter procedures for confined space entry. This in mind, we are proud to announce that in close cooperation with our partner CIMC, we have been able to develop this improved design.

The schematic pictures below give an impression of the set up of the vertical baffles.

Baffle plates are installed inside tanks to stabilize the product and prevent sloshing. Sloshing refers to the movement of the product inside the tank containers that can be caused by sudden driving conditions such as braking and cornering. When horizontal baffle plates are fitted, it is very difficult to recover an unconscious person in case of an accident. With vertical baffles, recovery time and effort will reduce drastically. ■



# MRI *delivers hard*

Richard Shaw, Managing Director at MRI Intermodal Software, tells *Tankcontainer Magazine* how the company is leveraging its MRI Agora platform, its acquisition in India and the company's long-standing tank container experience to deliver leading-edge automation, analysis and integration software for its customers.

Richard Shaw,  
Managing Director,  
MRI Intermodal Software

# benefits from software

**TCM:** What is MRI Intermodal Software's history?

**RS:** Established in 1971, MRI Intermodal Software is a global provider of technology solutions headquartered in Cleveland, Ohio with approximately 4,000 employees and offices worldwide. It acquired RAM Intermodal Software in 2017, after which it was rebranded to MRI Intermodal Software. In December 2024 MRI acquired Chennai-based iInterchange systems.

**TCM:** What 'solutions' does it offer?

**RS:** For tank container operators, MRI Intermodal Software has designed systems for preparing quotations, responding to tenders, managing jobs efficiently, controlling costs, optimising equipment, Maintenance & Repair (M&R), preparing sales invoices, processing purchase invoices, utilising EDI to speed up administration, financial reporting and improving performance through business discovery.

For tank container lessors, we provide specialist tank container leasing software to manage all aspects of the leasing process from the creation of contracts to the disposal of equipment, enabling

a move from expensive in-house solutions. Centrally stored contract information can then automatically create invoices, resulting in faster billing. Clients also have visibility over the tank fleet at all times and can identify trends to make profit-impacting decisions.

MRI Intermodal is now able to provide a highly scalable comprehensive tank container depot management solution featuring insightful data analytics.

**TCM:** What makes MRI Intermodal genuinely unique?

**RS:** MRI has been serving the tank container market for over 30 years and many of the team members have been part of the industry since its inception. This deep understanding of the industry allows us to understand what our clients need in terms of efficiency and insightful

Our corporate stability and faster innovation through the MRI Agora and automation platform is based on advanced Artificial Intelligence (AI), which gathers data and information. MRI Agora Insights can be used to optimise data collection, so clients spend less time searching for data and →



more time on strategic operations. This reduces reporting time by up to 80% as insights are available on one central dashboard. Trends can be identified, data anomalies flagged and the right questions answered faster.

The iInterchange acquisition extends our solutions to offer management systems for energy, facilities and property.

**TCM:** Which well-known tank container players use MRI's software?

**RS:** Our clients include container tank lessors (CS Leasing, Peacock, Albatross, Falcon Lease), tank operators (Hoyer, Suttons, M&S Logistics, Paltank) and depots (JTS, Dubai and Sahreej in Saudi Arabia). In recent years we've seen the industry actively adopting innovative digital solutions.

We have over 200,000 tank containers being managed on our systems and have implemented our software for tank container startups with fewer than 100 tank containers (but can work just as efficiently for fleets of over 100,000 tank containers).

**TCM:** What benefits does the recent acquisition of iInterchange bring?

**RS:** It will expand the offerings in MRI's portfolio of products and will take the business into new markets such as tank depot management. Meanwhile, the technical team in Chennai will add more specialist skilled resources to MRI's development centre in India.

**TCM:** How can the tank container industry leverage software better?

**RS:** Some tank container companies still use in-house software solutions - occasionally self-hosted in the cloud - to manage their business but these solutions, tailored to individual businesses, often hold them back. Implementing bespoke applications is typically a very long process, very expensive and fraught with project delays that a specialist software supplier can avoid.

Bespoke software innovation must be funded solely by the individual business and is often not feasible. Without innovation,

systems can stagnate leading to both reduced efficiency and poorer customer service. The cost of upgrading must then be borne by an individual company alone rather than being the responsibility of a software vendor.

In contrast, specialist software solutions are under constant development, from which all clients benefit. This allows systems to stay at the cutting-edge of technical innovation and such innovation is often included in standard fees.

MRI ensures data is safe and secure, thanks to our robust information security programs which use industry best practices, constant monitoring and regular testing. These are difficult to achieve with similarly priced in-house solutions.

Whether it is a large ERP system or a small software supplier the initial outlay and ongoing cost is usually more than a specialist supplier. In the long run, we see in-house systems being more than ten times the cost to implement and maintain compared with software systems supplied by a specialist cloud-based vendor.

The ideal solution is to use a cloud-based software solution hosted by the vendor, which have expertise in hosting and administering their technologies.

**TCM:** What are the tank container software trends?

**RS:** We see growing demand for data insights and trend analysis via point-in-time business intelligence. This allows businesses to very quickly spot trends and make informed decisions so they can spend less time looking for, and sifting through, the data and more time acting on it.

Cybersecurity is more of an issue now than it has ever been and businesses are seeing it as a major threat to their continued success. Cloud-based solutions are being sought for higher levels of security, improved accessibility, and greater scalability.

Many businesses are moving away from traditional large ERP systems to more focused, best-of-breed systems. The MRI Agora platform has an API hub that provides hyper-connectivity to ensure that systems can communicate in real-time on a publish-and-subscribe methodology.



AI and machine learning is a hugely disruptive technology - at MRI, all uses of AI are thoroughly vetted and are low risk for data leaks or disclosure of proprietary information.

**TCM:** What are the key factors for a successful software implementation project?

**RS:** Strong project management based on experience, a clear framework and constant project monitoring/reporting. Our team has a tried-and-tested project management methodology that is used for all implementations, big or small.

Clear project goals and expectations are mandatory to ensure that the software meets the goals and returns the value that has been discussed through the sales process.

All software implementations must include comprehensive training backed up by robust testing and quality assurance to ensure that all deliverables are fit for purpose and used efficiently.

**TCM:** How is AI and Machine Learning improving software development?

**RS:** MRI is using AI/ML throughout the business, particularly in the development cycle, to improve efficiency within the teams. The biggest use for this in software development is to automate repetitive coding tasks and generate code based on developer inputs. This disruptive technology also enables us to enhance defect detection and improve overall code quality.

**TCM:** What are the Critical Success Factors for a software provider to the tank container industry?

**RS:** They can be summarised as delivering an agreed return on investment, greater customer satisfaction, better informed business decisions and data security.

We can leverage MRI's deep understanding of industry-specific needs, its scale, best-in-class cloud infrastructure, MRI Agora platform and innovation.

**TCM:** What are the major challenges and opportunities for software providers nowadays?

**RS:** Technological advancements and the ever-changing expectations of users are, and have always been,

a challenge for software companies. Now, more than ever, users are expecting to be able to interact with systems and data on their terms using methods that are convenient to them.

Improper data security has been the downfall of both small and large organisations including software companies. MRI has a robust security policy backed by a team of experts monitoring systems, infrastructure, and adherence to policy.

As we move further away from large ERP applications, managing the complexity of integrations with other systems and data sources can be a challenge and a barrier to progress.

As for opportunities, the big talking point is Generative AI and Machine Learning, a hugely disruptive technology that will completely change the way we view software. MRI is an AI first organisation, and we are investing heavily in this rapidly developing area.

Being able to leverage all data sources outside of core operational systems is a real opportunity. Maximising the data available to a process will allow systems to react automatically without users having to spend hours plugging in key operational data.

MRI actively engages with third party data providers to facilitate a connected supply chain ecosystem, allowing clients to operate at greater scale. Software companies must work together for the benefit of the whole industry and that's why we have an extensive partner network, allowing us to bring complementary products and services to our clients.

### Biography

Richard Shaw is a seasoned business leader with over two decades of experience in the intermodal software industry. Currently, the Managing Director of MRI Intermodal Software, he leads a dedicated team of professionals across Europe, the Middle East and India. Shaw began his career in 1999 as a Sales Consultant at Real Asset Management, which became part of MRI Software. Throughout his tenure, he has progressed through various leadership roles, including Sales Director and Joint Managing Director, successfully delivering a strategy of long-term client value to MRI's Container Leasing, Tank Operating, Depot Management and M&R clients. ■





**It was a tough year for many in the tank container sector but, despite the global chemical sector not likely to recover in 2025, there will still be opportunities. Leslie McCune, a well-known tank container market expert, explains why.**

### Summary

The Good, the Bad and the Ugly was a 1966 spaghetti western starring Clint Eastwood. It featured gratuitous violence, tension and stylised gunfights, and was a huge financial success.

Financial success came far less easily in the tank container sector in 2024 but, as in the film, parts of the market were good, some were bad and some were just plain ugly. There were significant regional differences with stronger demand in North America combining with good prospects in South America and record results for some in the Middle East.

Europe was miserable for most tank container players, except for depot operators, and even China had an anxious time in terms of tank container manufacturing and laden tank container imports.

Tank container **operators** saw rates and margins slide towards the end of the year and some, especially in Europe and South East Asia, will be in financial difficulty. **Lessors** were faced with much reduced demand from operators - their largest customers - and there were far fewer large leasing deals. Lease contract renewals were often at lower rates but activity strengthened a little in Q4 although, as with operators, there were unsustainably low rates being offered for certain parcels of business.

Some growth in demand was supported by the ongoing **modal shift** from chemical parcel tankers to tank containers and by occasional localised bans on flexibags. Equipment shortages in Europe and South East Asia helped limit - but not prevent - margin erosion on movements from Europe at the end of the year but declining spot freight rates from Asia also hit operator margins.

Over the year, several major chemical producers reported **no overall growth** in the volumes moved in tank containers, despite there being a recovery in some areas (often from the very low levels of 2023). Many are being forced to restructure.



# 2024 Review of the Year: *The Good, the Bad and the Ugly*

The catalogue of supply chain constraints began clearing in the second half of 2022 but healthy demurrage revenues continued into 2023, contributing a quarter of total revenues for some tank container operators. These revenues fell back by 20-25% to more normal levels in 2024, significantly depressing operating profits.

All in all, it was a year of weak demand growth, low equipment utilisation, squeezed margins, reduced operating profits and increased competitive intensity. A significant bounce-back in 2025 is unlikely.

For some, margins are clearly unsustainable so expect M&A activity if this is the new normal and conditions fail to improve.

ITCO's **annual fleet survey** reported a 4% increase in the global tank container population to 882,023 units, as of 1 January 2025. This was half the average annual growth over the past decade, reflecting a sharp decline in chemical production, low economic growth and a normalisation after the huge demand for tank containers in 2021 and 2022, caused by the supply chain disruptions associated with the Covid-19 pandemic. Nevertheless, the overall fleet continued to grow ahead of global GDP growth.

Most of the 2024 fleet growth came from operators while leasing company fleets remained little changed with CS Leasing notable for its 6% fleet growth.

### Chemical outlook gloomy except in N.America

Despite regional hotspots, there was very little to support a positive global chemicals growth story and there will be little-to-no uptick in 2025. The chemical sector is in a long term, **structural slowdown** with no upswing forecast for at least the next 3 years, or until it adapts to the scale of the shutdowns necessary to restore viable operating rates. Specialty chemicals are less exposed than commodities - good news for tank

containers - but are not immune to cut backs and closures. Demand for specialty chemicals will grow at a premium to the long-term chemical sector multiple of 1.1x GDP.

Chemical production, a well-known lead indicator for the global economy, was 68% of capacity in the middle of last year compared with an average of 78% from 1997-2023. As a result, many chemical majors - all familiar tank container users - are going through 'global portfolio optimisation and asset **restructuring**' initiatives, including SABIC (which may exit Europe completely) and the mighty BASF. The need for chemical producers to reduce their controllable costs has inevitably put sometimes painful pressure on supply chain providers.

Already the world's largest chemical producer, China's drive for **self-sufficiency** will intensify in certain key chemical streams although some construction projects are being delayed as provincial governments struggle to meet their carbon emission targets in the 2021-2025 Five-Year-Plan. Nevertheless, Chinese chemical production enjoyed double-digit growth last year and, longer term, capacity is forecast to **expand by nearly a third** in the next decade. However, long-term demand growth is declining so surplus capacity will be exported. Commentators note a long-term shift in global growth momentum away from China as manufacturers explore Vietnam, India, Mexico and Turkey.

The North American chemical industry was more resilient with 3% growth in 2024 and a similar figure estimated in 2025.

**Decarbonisation** is a key theme. Gasoline demand for transport accounts for 60% of oil production but is declining due to the electrification (i.e. decarbonisation) of transport, not least in China which accounts 70% of all global electric vehicle sales. ➔



New crude oil-to-chemicals technologies, aimed at boosting a refinery's output of downstream chemical feedstocks from 40% to 70-80%, are being prioritised.

The huge growth in chemicals supply from both the Middle East and China will add to the current level of **global overcapacity** and this prospect will inevitably drive closures in South Korea, South East Asia, Taiwan and Europe until global operating rates revert back to the norm.

Regions with weaker cost positions, such as Europe and Latin America, will see significant imports from the spare capacity of producers in China, North America and the Middle East, all of which can leverage lower production costs based on cheaper feedstock, low energy costs and large-scale assets.

What does all this mean for tank containers? New, and changing, chemical trade flows will require supply chain flexibility and more demand for tank container 'specials' and, as larger bulk liquid chemical flows decline in some markets, smaller lot sized intermodal tank container movements may become a more attractive option than chemical parcel and product tankers.

## Tank container market

The tank container supply surplus over the past 18 months, combined with declining demand, has led to more intense competition between an increasing number of operators. Inevitably, margins have suffered.

However, a more economically and politically fragmented world has heightened market uncertainties, making supply chains more unpredictable, disrupted and less efficient. While less desirable than stable top line growth, more fragmented chemical flows do provide underlying support for the flexible transport and storage options offered by tank containers.

Greater market **volatility** is making purchasing managers less secure and has raised their anxiety sufficiently to build more generous Just-In-Case safety stocks. Volatility also makes supply chain planning difficult and often creates periodic shortages.

The significant increase in the global tank container fleet in recent years outpaced demand in 2024. This surplus, combined with a fall-off in demand, pulled utilisation levels down to as low as 50% and forced some to offer unsustainably low prices with non-existent or even negative margins.

Late-year shipping surcharges reflected widespread disruptions, port delays, equipment shortages and a scramble to boost imports into the US ahead of Trumpian tariffs. Supply disruptions such as those caused by the International Longshoremen's Association strike - which briefly closed US Gulf and East coast ports - helped tighten the tank container market somewhat in 2024 while Q3 space constraints, particularly out of Asia, China and the US strengthened operator margins despite higher ocean freight rates (which are passed on, with a margin added, to customers). Maersk (55%) and CMA CGM (51%) had the best reliability.

## Lessors

There is no doubt it was a tough year for the lessors with far fewer large leasing deals but a steady stream of small/medium deals. Opportunities included the development of new product flows and the reassessment by several major chemical companies of their logistics service providers.

The specials market is getting more competitive as lessors, previously focused on standard tank types, invest in more specialised equipment to move, for example, acids and temperature-sensitive products.

Leasing activity picked up slightly in Q4, helping to improve utilisation rates, although per diem lease rates fell, with the occasional outlying rate at clearly unsustainable levels.

## Operators

Most operators had an equally challenging year with many returning the leased tank containers that had been used to complement their owned fleet. There was little volume growth and margins fell away in Q4, most notably in Europe and South East Asia. Lean organisational structures became essential.

More positively, the US and China remained robust while South America offers opportunities, not least because of the trade liberalisation of the Mercosur trade bloc.

Market leader, Stolt Tank Containers, saw 2024 shipments up a healthy 8.6% compared with its 14 year average annual shipment growth of 2.7% although operating revenue fell nearly 7% to \$652 million and net profit collapsed by 91% to less than \$10 million (ignoring the payment of the loss provision of \$290 million, before insurance proceeds, for the *MSC Flaminia*).

## Depots

Loaded storage demand increased markedly last year. The glut of stock on the ground, combined with the difficulty and cost of finding alternative storage in some regions, encouraged some lessors to offer unsustainably low contract renewal rates to generate incremental revenue and avoid depot storage fees. Low imports impacted Chinese tank container depots, which rely heavily on them.

Those operators not having an ownership stake in **cleaning stations** and **depots** worked on **improving their relationships** with them - via 'preferred partner' schemes, etc - to avoid congestion and ensure faster tank turnaround.

## Tank manufacturers

Tank manufacturers struggled due to the reduced requirement, ultimately, of the chemicals sector, which offered fewer tank container tenders and where cost reduction was a priority. The number of tank containers manufactured fell 25% to 42,123. Prices ended up well below \$14,000 for a standard 25m<sup>3</sup> T11.

## Regional activity

Leasing activity was reasonably strong in Asia but operators saw laden tank container imports into **China** fall in the first half of last year before picking up in the second half of the year. China's demographically-driven deflation cycle will see only low single digit chemical demand growth.

**Japan's** chemical industry has very poor capacity utilisation and restructuring is inevitable. Two deep sea operators strengthened their North East Asia representation with a Uyeno-Bertschi joint venture and a Den Hartogh/Daelim 'strategic alliance'.

More positively, **India** is expected to be among the fastest growing markets, with strong demand for tank container 'specials', while growth in South East Asia was supported by the need for semiconductor and electric vehicle battery chemicals.

Some Asian tank operators shifted their focus from deep sea to intra-Asia opportunities because of the low rate levels into Asia, especially from Europe.

In the **Middle East**, many tank container lessors have set up offices with the investment being justified by being part of a global network or part of a larger group. The leasing market

remains small, immature and underdeveloped. For some, leasing demand was robust but depots continued to have high inventories in much of 2024. Confidence in the region remains strong with tank containers needed for the movement of large but sporadic refinery streams and the steady production of specialty chemicals. The successful development of oil-to-chemical technologies will significantly boost demand for those with established tank container relationships in the region.

Compared to the global chemical industry, **Europe's** chemical sector was hit much harder in 2024. Production inched forward 1.9% after the 6.6% decline in 2023. The volumes of chemicals transported declined and cost pressures increased which, combined with a tightening regulatory framework, drove down overall transport profitability.

The European Chemical Transport Association's members reported a 20% decline since 2019 - to 80 million tonnes - and a small but steady decline in the market share of intermodal transport (compared with road) due to regulatory uncertainty and poor reliability, partly due to the lack of harmonisation between Europe's national rail networks. Germany's defective rail system, and a reduction in the subsidies for track access fees, discouraged intermodal transport.

The region's chemical market is in transition with disintegration strategies under way at BASF, Evonik and Lanxess. Non-European owners with global production assets may exit Europe and rely instead on imports.

Unsurprisingly, leasing activity in Europe was slow in 2024 although in the US, where leasing activity was weak, operators were busy in the US Gulf as the post-Covid restocking cycle began. This contributed to a 3% bounce back in the North American chemical industry after a slight contraction in 2023.

## Trends

2024 saw new cargo routes and products, with many - such as high purity sulphuric acid for semi-conductors - being temperature-sensitive. More powerful refrigerator units are being developed for large 26,000 litre tanks which usually have thinner insulation to ensure they fit within ISO dimensions.

Other changing or developing **product flows** include hydrotreated vegetable oils, from which renewable bio-diesel fuels such as HVO20 can be produced and used as a replacement for ultra-low sulphur diesel. Used cooking oil has recently developed added-value as a feedstock for sustainable aviation fuel.

More generally, tank container flows adjusted to new production and consumption sites with the conflict in the Middle East forcing many ocean carriers to re-route via the more costly and longer Cape of Good Hope.

As global trade flows continue to be disrupted, cost-effective and reliable logistics partners are becoming a more potent **competitive advantage** for chemical producers.

A move away from globalised to regional trade offers both opportunities and threats for tank containers - shorter routes with an increased number of turns might increase utilisation and, potentially, limit the demand for new builds but it would change a company's competitive environment.

Improved supply chain transparency and **visibility**, increasingly supported by artificial intelligence and machine learning, remains

a key investment and operational priority among tank container players and their customers. These systems go far beyond the basic real-time track and trace that most customers can now expect from tank containers operators and are available from Ovinto, Shippeo, IMT, Project44, Savvy, etc.

On the equipment side, baffle tanks appear more popular as they offer greater flexibility for multi-product movements and **EcoVardis** accreditation is becoming a significant competitive edge for many with Peacock a pioneer among lessors. It assesses companies on their sustainability and Corporate Social Responsibility performance and may increasingly become a *sine qua non* for major chemical multinationals.

## ITCO

Under new leadership, ITCO broadened its remit and inclusiveness to better represent the tank container industry.

## M&A

There was a steady stream of M&A activity, albeit with smaller deals than in 2023.

Sixth largest operator **Den Hartogh** acquired H&S (but not its cleaning and filling businesses). H&S focused on the transport of liquid food grade products in Europe and has become Den Hartogh's fifth business unit.

GRW, a leading South African industrial vehicle manufacturer (39% owned by Schmitz CargoBull AG), acquired Belgium-based, family-owned **Van Hool** which will continue its production of stainless steel equipment.

**Boasso Global/DCI's** consolidation within the depot sector continued with two acquisitions in the Pacific Northwest. DCI intends to develop and grow its global footprint, which has a network of over 160 depots near manufacturing and transportation hubs.

**Klinge**, the tank container refrigeration equipment provider, was bought by Trane Technologies' Thermo King brand while infrastructure asset manager Reichmuth acquired a stake in Breda-based **Meeberg** Leasing with a view to increasing and diversifying the company's leasing fleet. Reichmuth's objective is to grow its intermodal equipment leasing footprint, a recent theme among several global asset managers and private equity investors.

In February last year, Bohai Leasing Co., the Shenzhen-listed arm of failed Chinese conglomerate HNA Group, kicked off its latest attempt to sell Seaco Global, the world's third largest tank container lessor, for a reported target price of \$1.5 billion (\$5 billion including debt). The move was driven by its reported need to refinance \$2 billion of senior unsecured notes which were due last September with proceeds from a sale helping to repay an envisaged initial \$1.2 billion one-year tranche. Ultimately, a \$1 billion private loan was secured from RRJ Capital in August.

Seaco was reported to have annual earnings of less than \$100 million prior to 2022 so, based on a simplistic but typical valuation multiple of 10x earnings, a \$1.5 billion price tag looks ambitious. It was bought by HNA from GE Capital and Sea Containers in 2011 for \$1.05 billion, prior to the \$550 million acquisition of rival container lessor Cronos in 2015. HNA's continuing ownership remains uncertain but, for the moment at least, it is business as usual.

Leslie McCune: [lm@chemicalmanagement.co.uk](mailto:lm@chemicalmanagement.co.uk) ■

# Onwards and *upwards*

**ITCO's 2025 Global Tank Container Fleet Survey shows ongoing growth within the global tank container fleet despite the swirling headwinds facing the sector.**



The global tank container fleet continues to grow, with the latest Global Tank Container Fleet Survey from the International Tank Container Organisation (ITCO) revealing that, as of January 1, its global fleet number stood at 882,023 units. Representing an increase of 3.96 per cent on the 2023's fleet size of 848,400, the current figure breaks down to a total of 619,741 units under the helm of the world's 240 or so third-party tank container operators and a further 213,514 employed by shippers themselves, primarily companies drawn from the chemical, food and drinks sectors, as well as various other entities, such as the military. This compares to respective prior-year figures of 587,970 and 196,477.

Although a clearly positive development, this growth in global fleet size was nonetheless down on that achieved in other recent years, falling from 5.81 per cent in 2023; 8.65 per cent in 2022; and 7.3 per cent in 2021. In part, this can be attributed to the waning effects of the global Covid pandemic. As a response to the major supply chain disruptions caused by lockdowns and other restrictions placed upon the movement of people, goods and equipment during the height of the pandemic, chemical companies were inclined to overstock, using tank containers held on demurrage as a convenient 'just-in-case' storage system by which to guard against any sudden stops or interruptions in supply.

This greatly bolstered demand for tank containers and provided a significant fillip to, among others, the world's tank container manufacturers, who upped their production of new tank containers in 2021 to a figure of 53,285 and then to a record high of 67,865 in 2022. While this subsequently fell back to 56,600 in 2023, it dropped again in 2024 to the latest figure of 42,123 (although this is still up 17.6 per cent on the 35,800 units produced in 2020).

With ITCO estimating that around 8,500 tank containers were scrapped or sold out of the industry in 2024 (down from 10,000 in 2023), this means that 2024 saw a net total of 33,623 units added to the global fleet compared to 46,600 in 2023 and 63,865 in 2022.

## Chemical concerns

While the effects of Covid on the sector may now have largely passed, other factors have been making themselves felt, most notably the health of the global chemical industry. While ITCO notes that the North American, and in particular the US, chemical industry "demonstrated resilience and growth in 2024" and is expected to continue growing at around 3 per cent this year, things on the European side of 'the Pond' have not been quite so rosy.

"The European chemical industry faced significant challenges in 2024, continuing a downward trend from previous years," the report states. "High energy and feedstock costs, coupled with increased regulatory expenses and weak demand, led to a contraction in production," it continues, noting that a 6.6 per cent drop in chemical industry output in 2023 was followed by "only a modest 1.9 per cent growth" in 2024. In response, the sector has embarked on a course of plant closures and downsizing, all of which is unlikely to translate into greater demand for tank containers any time soon.

Overcapacity has also proved a challenge to the sector in Asia, and especially China, where intensified competition has likewise led to various "consolidation efforts among producers". What's more, the current prognosis does not seem particularly bright. "Major chemical players are not anticipating any significant upturn in the second half of 2025, with the China factor being an important component in their planning," the report states.

“Key markets such as construction, automotive and durables are all showing weakness,” it notes. “The exception to this picture is the North American market which continues to see positive GDP growth, although the impact of tariffs and other actions by the new administration on growth, inflation and interest rates is difficult to predict.”

### Untapped potential

Despite all these challenges, ITCO finds it “encouraging to see the tank container fleet continuing to grow ahead of global GDP growth”, which both the Organisation for Economic Co-operation and Development (OECD) and International Monetary Fund expect to rise from 3.2 per cent



in to 2024 to 3.3 per cent this year and again in 2026. Indeed, the report’s authors still see much scope for continued growth over the coming years as shippers continue to switch from drums and other packaging where possible.

After all, while there will always remain a market for drums, sending product by tank container avoids the issue of ‘shipping air’ associated with consigning cylindrical drums inside a standard box shipping container. As well as enabling a shipper to transport approximately 25,000 litres of product per TEU, as opposed to around 13,000 litres with drums, there are other substantial economic and logistical benefits from the use of tank containers, which include a usually faster load and unload time compared with rival packaged systems.

Meanwhile, at the other end of the spectrum, the tank container’s intermodal design makes it a highly attractive alternative to shipping bulk product via parcel tankers as they can readily facilitate door-to-door transports via road, rail or ship/barge in conjunction with providing integral product storage when not in transit. The only proviso is, of course, that there needs to be the infrastructure in place to handle and service tank containers for their use to be viable, something that is increasingly becoming the case in the relatively untapped markets of South America, the Middle East and South and South-East Asia.

Consequently, while it is unlikely that the heady growth levels of the 1990s will ever be revisited, overall market growth of around 5 per cent over the next three years or so is not implausible. “Despite the headwinds,” the report states, “the tank container offers many supply chain advantages which will support its role as a niche mode of transportation, particularly considering the pressures being faced by its main customers in the chemicals and food-grade markets.”

### Market composition

In terms of market composition, this year’s ITCO fleet survey reveals little change in the rankings of the top ten tank container operators, which together accounted for some 301,750 tank containers, equivalent to just under half of the total operator’s fleet of 619,741 units. This compares to prior year figures of 297,955 units and 587,970 units, respectively. While there were some changes to the sizes of each individual player’s fleets, there was no change to the general rankings, with Stolt Tank Containers leading the field with a fleet of 52,200 units. Hoyer, meanwhile, took the second spot with a fleet of 41,500 tank containers, followed by Newport (38,500); Bertschi (35,600); China Railway

Logistics (27,500); Den Hartogh (25,200); Bulkhaut (23,250); the E-way Group (22,000); Intermodal Tank Transport (20,000); and NRS Ocean Logistics (16,000).

ITCO obviously includes idle tank containers when calculating the global tank container fleet. The leasing sector fleets include those being used around the globe by either operators or shippers - these numbers are reported in the fleet sizes of these operators and shippers. That said, ITCO calculates that as of January 1 this year, some 57,268 leased tank containers were idle. This represents 15 per cent of the total leasing fleet of 381,781 units and compares with prior-year figures of 17 per cent and 376,195, respectively.

Consisting of 38 companies known to ITCO, the tank container leasing sector remains dominated by 10 companies that together own 319,733 units, or roughly 84 per cent of the total leasing fleet. Again, while there were some slight tweaks and changes to the size of individual fleets, the overall rankings remained unchanged from the previous year. As such, Stroom-owned Eurotainer and Raffles Lease held the lion’s share of the leasing fleet with a combined fleet of 85,000 units (50,000 and 35,000, respectively). This was followed by EXSIF Worldwide with 71,300 tank containers, which again came in ahead of Seaco Global (43,000); CS Leasing (35,250); Trifleet Leasing (25,083); Peacock Container (24,100); Triton International (12,000); Albatross Tank Leasing (9,900); International Equipment Leasing (9,200); and TWS Rent-A-Tainer (7,900).

*First published in 2013, the ITCO Global Tank Container Fleet Survey offers a comprehensive annual overview of the global tank container fleet. It can be freely downloaded as a PDF from the ITCO website ([www.international-tank-container.org](http://www.international-tank-container.org)).* ■

# Stroom Investing to Modernize the Tank Container Depot Infrastructure



**DEMI Container Services, a company focused on repair, modification, inspection and refurbishment of intermodal ISO tank containers, and small portable tanks is investing to transform the tank container depot experience. DEMI Container Services bv was founded in 1996 in Heinenoord, Netherlands.**



The company was acquired by Stroom (at that time named "Ermewa Group") in 2020. Since this time, DEMI has opened a new facility in Houston, TX in July 2024.

Derived from the initial need to provide more storage and maintenance capacity and higher level of service to the tank container industry DEMI Container Services identified the following issues in the industry:

- **Quality and Safety** incorporating the Stroom safety and quality standards derived from many years in Railcar repair and production
- **Lack of automation** of the inspection, modification and repair process
- **Slow turn times** due to inefficient operations
- **Shortage of container** storage options
- **Limited systems integration** with partners and suppliers
- **Few options** for maintenance services on specialized tank containers
- **A lack of environmental sustainability** in tank container maintenance operations

DEMI, through Stroom, has made investments in systems, infrastructure and people to tackle these challenges.

DEMI is focused on delivering faster turnaround and times for our clients, reducing supply chain disruption and enhancing their tank container fleet efficiency. Moreover,

as the process will be automated, the quality and accuracy of the data provided will be improved.

**"Debottlenecking the tank container maintenance process" has become the mantra of DEMI.**

These investments include renovation and infrastructure development at both locations. These changes are part of a bigger strategy to:

- *Provide state-of-the-art essential infrastructure and skilled labor for the tank container industry*
- *Provide safe, high-quality repair work for all types of tank container equipment including liquid, gas and cryogenic*
- *Focus on improving the depot process with sustainable practices*
- *Implementing innovative processes and systems to improve tank container maintenance work and empower our client's supply chain*

Stroom's strategic investments in DEMI include:

- **Modernizing Workshop Spaces:** Providing the largest interior workshop space in the industry, all recently constructed or refurbished.
- **Sustainability Initiatives:** Investments in solar panels, capturing and re-using rainwater, a rechargeable electric container mover, high efficiency diesel container lifts and electric forklifts.

- **On-Site Valve Rebuilding and Certification:** Each facility offers on-site valve rebuilding and testing. Certification services for PHONIX pneumatic valves available in Rotterdam.
- **Dedicated Repair Areas:** DEMI has expanded its dedicated and separate areas for repairing and modifying different types of tank containers. Allowing our employees to specialize and dedicate their skills to servicing tank containers and small portable tanks by type.
- **Overhead Crane with High Lifting Capacity:** Overhead crane(s) with 30-ton lifting capacity, smaller 10-ton cranes, and 2-ton cranes at work stations to make container and parts movement efficient.
- **Industrial tablets:** Industrial workbooks are located at each station in the tank container repair process. These tablets track the work completed on each asset in for service and immediately transfers the information to DEMI's operating system so that the next station in the repair or testing process is prepped with all the information needed.
- **Efficient container handling equipment:** Custom built container movers, rotators on lifts to easily position tank containers on their side and straddle carriers with tight turning radiuses that move equipment with ease and efficiency.



- **Robotics:** Robotics being utilized for internal inspections of tank containers. This will simplify the process of taking ultrasonic measurements to determine steel thickness in tank containers. This technology delivers a tremendous increase in safety by reducing the need for technicians to enter the confined space of a tank container.

DEMI and Stroom have plans for expansion and extension of this business model in the future. Facilities in the Middle East and Asia Pacific are part of the strategic plan. The issues impacting tank container service facilities in North America and Europe are part of a global challenge and the markets in the Middle East and Asia are no different.

For more information on DEMI please go [www.demicontainerservices.com](http://www.demicontainerservices.com) or send an email to us at [info@demicontainerservices.com](mailto:info@demicontainerservices.com) Follow us on LinkedIn, Instagram or Facebook or connect via our QR code:



#### DEMI Rotterdam, Netherlands

- 38000 M<sup>2</sup> OF TOTAL AREA
- STORAGE CAPACITY FOR OVER 2000 TEU (TWENTY FOOT EQUIVALENT UNITS)
- LOCATED 15 MINUTES FROM THE PORT OF ROTTERDAM
- 3500 M<sup>2</sup> OF WORKSHOP SPACE, ALL RECENTLY CONSTRUCTED OR REFURBISHED
- ON-SITE VALVE REBUILDING AND CERTIFICATION TO SERVICE PHONIX PNEUMATIC VALVES
- DEDICATED AREAS FOR REPAIRING DIFFERENT TYPES OF TANK CONTAINERS
- EUROPEAN LEADER IN CRYOGENIC TANK CONTAINER MAINTENANCE AND REPAIR
- OVERHEAD CRANE WITH 30 TON LIFTING CAPACITY

#### DEMI Houston, USA

- TOTAL OF 34 ACRES (13.75 HECTARES) WITH TWO STABILIZED YARDS
- 165,000 SQUARE FOOT WORKSHOP
- DEDICATED AREAS FOR REPAIRING DIFFERENT TYPES OF TANK CONTAINERS
- STORAGE CAPACITY FOR OVER 2000 TEU (TWENTY FOOT EQUIVALENT UNITS)
- OVERHEAD CRANES WITH 30 TON LIFTING CAPACITY
- ON-SITE VALVE REBUILDING
- TANK CONTAINER CHASSIS STORAGE AND REPAIR
- STATE OF THE ART MOBILE AND FIXED LIFTS FOR EFFICIENT CONTAINER MOVEMENT
- "SPEC TIGHT GASKET AND SEALING CERTIFICATION"

# Ukrainian tank container sector develops amid ongoing war with Russia

The Ukrainian tank container industry is understandably developing slowly due to the ongoing war with Russia and the tough business environment in the country.



**Alexander Kubrakov**, former Ukrainian Minister of Infrastructures

Three years after the beginning of the war with Russia the industry continues to show generally positive dynamics, partly due to its re-orientation towards supporting the needs of the military and its ability to adapt to the current realities in Ukraine.

Most local chemical plants have been forced to suspend their production of primarily hazardous chemicals in the active combat zones and the temporarily occupied territories.

The chemical complex of Ukraine is made up of more than 250 enterprises, of which almost a hundred are large. Prior to the war, they employed almost 220,000 qualified workers and made up 5.4% of the entire industrial and production workforce of the country. The production volumes make up 7% of the total industrial production of the country while 70% of the products are exported.



### Chemical production considerably damaged

According to the Ukrainian State Enterprise "Cherkassky NITEKHIM", at least seven large domestic chemical enterprises have suffered considerable damage as a result of the war. Not a single plant has completely resumed operations and 40-50% have completely suspended their activities.

The large local sulphuric acid manufacturer in the city of Rubezhnoye, for example, has been completely shut down with PAO Severodonetsky Azot and PAO Sumykhimprom suffering severe damage.

Despite this, the tank container industry continues. According to a report prepared by the Ukrainian leading transport consultancy, Pro-Consulting, while tank containers continue to remain a relatively new type of transport in Ukraine, the demand for them from both domestic shippers and foreign companies continues to grow, despite the ongoing hostilities.

Inevitably, the war with Russia put an end to the previous hopes for the development of the tank container industry at the encouraging rate that had developed before the war. According to estimates from an official spokesperson of Alexander Kubrakov, the Ukrainian Minister of Infrastructure, Territories and Restoration (the state agency responsible for the development of the tank container industry), the annual growth rate of the industry was about 20%. The combined market for both transportation within the country and for exports was 800,000 – 1 million tonnes.

In 2022-2023 the market dropped sharply with a fall of up to 40% compared with pre-war figures. This was due to the occupation of a significant part of Eastern Ukraine - the historical industrial center of Ukraine - by Russia. Since the second half of 2023 the situation has been steadily improving which led to a significant recovery of the market to close to the pre-war period in 2020-2021.

### Chemical exports to the EU grow

Despite the tank container market remaining relatively small in terms of both value and volume, most local analysts believe in its potential for further growth, especially due to the ever-growing supplies of Ukrainian chemical exports to the EU market. These were stimulated by the support provided to the Ukrainian economy by the West and by the generally high rates of decommissioning of old tank wagons in the country (a trend over the past decade).

### Obsolete tank cars being decommissioned

As in Russia, prior to 2014-2015, up to 80% of chemical and petrochemical cargoes in Ukraine were transported in tank wagons. Many of these were built during the Soviet era and a massive decommissioning of old and obsolete tank wagons commenced some time ago.

According to the Ukrainian Ministry of Infrastructure, the scrappage scheme has already resulted in a recent increase in the production of tank containers in Ukraine and a decline in the production of tank wagons.

### Tank container manufacturers

One of the major producers of tank containers in Ukraine was Azovmash, Ukraine's largest machine-building enterprise, which was based in the war-torn city of Mariupol. Established in 1958 the plant currently remains under the control of Russia and its production facilities have been effectively destroyed by Russia.

Azovmash is not the only major producer of tank containers in Ukraine, which historically has had probably the best conditions for the establishment of large-scale tank container manufacturing among the other former Soviet (and even Eastern European) states. The country's Soviet-era legacy conferred on it the status of one of the prime centres for machine-building in the USSR, especially during the 1970-1980s. →



Most local analysts believe the country has the required competencies and experience to enable it to eventually begin large scale tank container manufacturing once the war is over. This will free up a massive mobilisation of skilled workers for tank container construction and for the associated transportation and services businesses.

According to estimates of the Ukrainian government, the country's population has decreased by 25% since Russia's invasion. This has negatively impacted the entire industrial sector of the country, including the tank container sector. In addition to Azovmash, the other large tank container manufacturer is DMZ-Karpaty, which had plans to supply its tank containers to Russia before the war. Finally, Ilyichevsk Ship Repair Plant - the largest ship repair enterprise in Ukraine - also had its own production of tank containers. It is located in the city of Chornomorsk in the Odessa region. A significant part of the market is supplied by tank containers supplied from China.

### **Military demand for tank containers**

In recent years, many of Ukraine's leading cargo carriers have expanded into the tank container transportation sector that supports the needs of the military. Such expansion primarily takes place through the establishment of a special division within their overall business structures. This focuses on tank container transportation and include the needs of Ukrainian army, which is delivered either directly or through intermediaries.

### **Government support**

As the importance of the tank container industry is growing, the Ukrainian government offers support, not least because of its contribution to supporting the war

effort. This is primarily in the form of subsidies and other support, such as for the building of new, certified cleaning depots. In addition, the government also has plans to provide support to the industry by simplifying state regulations in regard to higher risk chemical cargoes, such as those transported in tank containers. This should eliminate some current administrative barriers for both domestic and international transportation by foreign shippers and carriers.

Finally, there are plans to more actively promote the use of tank containers in Ukraine. This will help overcome some of the technical difficulties associated with their use and introduce them as a new way of transporting liquid cargo.

A significant part of Ukrainian chemical transportation is already carried out in tank containers and, according to forecasts by local analysts, this will only continue to grow in years to come. Given Ukraine's status as one of the world's largest producers and exporters of sunflower oil, analysts expect the more active manufacture of new tank containers for transportation, as well as the transportation of other liquid commodities, in years to come.

In addition to rail transport, analysts expect a significant increase of tank container transportation in Ukraine by road. Local auto carriers, particularly those specialising in the transport of products in tank containers, have expanded their fleet of tractor units with specialised 30-foot tank trailers, which are designed for tank container deliveries. ■

## ***Destroyed Azovmash, once one of Ukraine's largest producers of tank containers, which is currently under the control of Russia***





## “The biggest risk of all *is not taking one*”

Each provider of debt or equity financing to the tank container industry has different motives and ambitions. *Tankcontainer Magazine* takes a closer look at where the asset managers and private equity have taken positions.

### Introduction

As for most businesses, tank container lessors, operators, manufacturers and depots are usually financed by a mixture of debt and equity. Decisions around the sources of funds are among the most important a company can take since they may commit it to potentially restrictive and punitive obligations. What are the options?

### Debt

Debt finance comes from lenders and is ‘rewarded’ by interest, which is tax-deductible. It is typically offered by a financial institution and is almost always a cheaper way of financing a company than equity, not least because debt lenders are protected in the event of bankruptcy and therefore tend to have lower demands than equity shareholders in terms of returns. Debt is lower risk than equity but is obviously not risk free as it is essentially a fixed cost - a company will become insolvent if it fails to generate enough cash flow to pay for it.

The more uncertain a company’s future earnings are, the more risk is presented to lenders. As a result, companies in very stable industry sectors with consistent cash flows - such as tank container lessors - generally make heavier use of debt financing than those in higher risk industries.

### Equity

Equity finance can come from the owners’ equity or private equity sources. Investors own a stake in the business and

are rewarded for their investment by dividends. Unlike debt interest payments, the payment of dividends is discretionary and depends on a company’s retained and operating earnings.

Equity investors include asset management companies - these are financial institutions which offer and manage investment opportunities - on behalf of their clients - along the risk-reward spectrum.

Investors’ money is usually pooled and invested in a balanced portfolio of assets, each of which is attractive in terms of its risk/reward profile. Tank containers are one such asset class and are desirable assets for pension funds - whose funds are managed by asset management companies - as they offer stable and attractive cash-yielding investment opportunities in the form of dividends to meet their long term pension liabilities. However, the shorter term demands of shareholders for growth can increase the risk of ill-conceived acquisitions.

### Mezzanine finance

Mezzanine finance has elements of both equity and debt financing and is therefore regarded as a so-called hybrid investing strategy. It offers debt lenders the right to convert their debt to equity if the company defaults on its debt obligations but is useful if a company seeks finance to grow but does not want to dilute its current shareholders by bringing in funds from new shareholders.

Access to the capital markets has undoubtedly provided large publicly-funded container lessors with funding advantages. They regularly refinance their debt by accessing the debt or **Asset-Backed Security (ABS)** markets. An ABS is a financial security, such as a bond, which is collateralised by a pool of assets such as leases, loans, credit card debt, royalties or receivables.

The ABS market has, however, not been open to tank container lessors due to the sector's relatively small size.

## Asset managers

Asset managers typically manage a broad-based, diversified array of different classes of investments with the objective of making dependable returns over time. They, along with non-traditional banks, are now at the centre of financial markets with insurance operations being acquired to power the growth of industry heavyweights such as Apollo, Blackstone, Brookfield and KKR.

Large infrastructure asset managers often have multi-billion dollar 10-year funds which are sub-divided into parcels of \$200-\$400 million. Each fund will have a general theme - such as **infrastructure** - and will build a diversified portfolio of assets with different cyclicalities and levels of risk.

The **tank container** sector is a target for **mid-market** infrastructure asset managers with several having similar investment approaches and appetites for risk. Companies held in these funds will eventually be transacted as most funds have proscribed lives (often 10 years). Those involved in the tank container industry include **Reichmuth, Apollo, Arcus, Brookfield** and **KKR**, the world's second largest private equity company.

Assets within a fund are routinely sold - Arcus Infrastructure Partners, for example, sold Constellation Cold Logistics, to EQT, one of the world's largest private equity investors, last June, after five years of ownership.

## Private equity

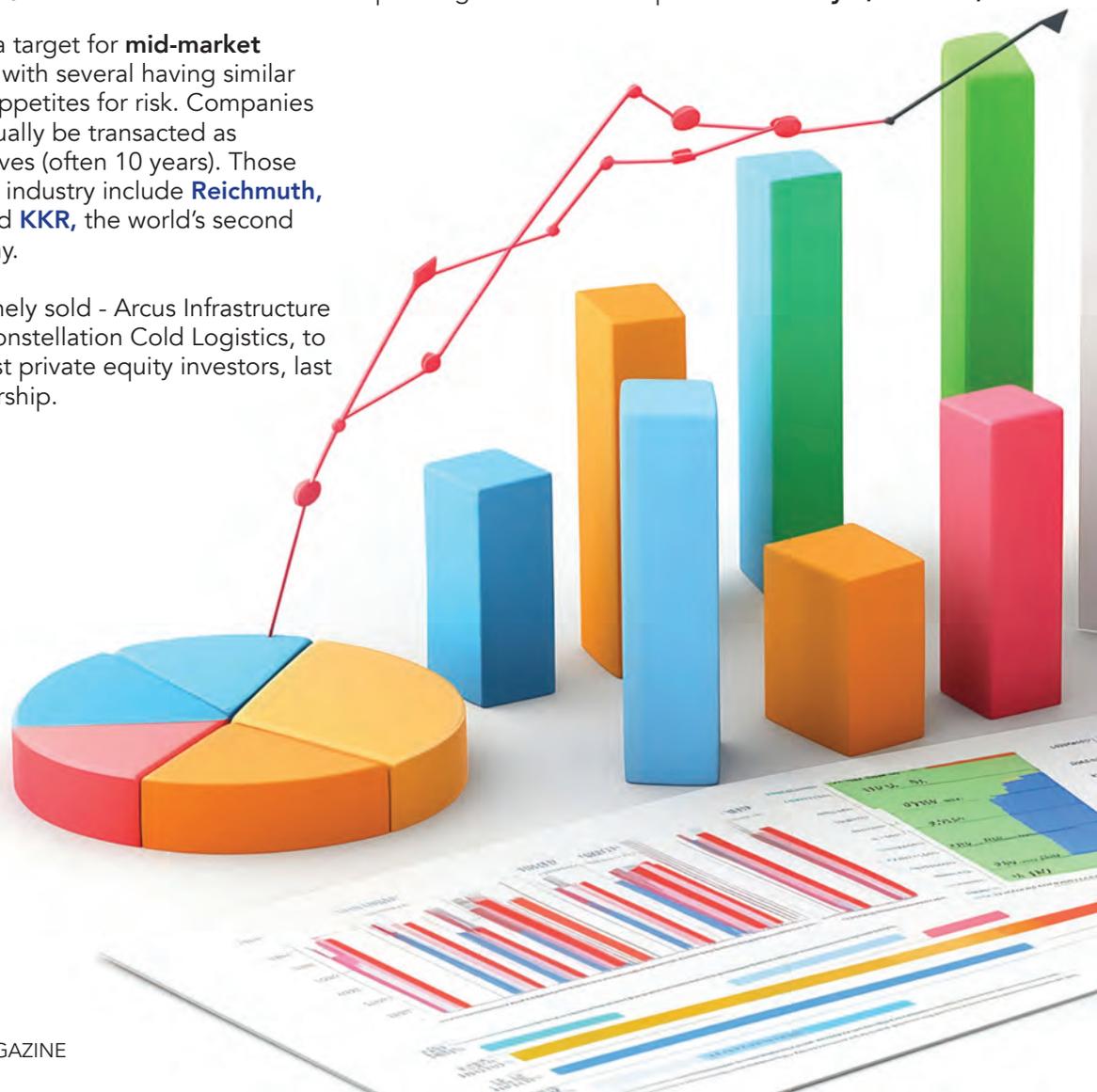
Private equity firms manage the investment capital they raise from institutional investors, accredited investors or high-net-worth individuals with a specific investment strategy: to acquire equity ownership in privately held companies (or to take public companies private). After buying a stake, or buying a company outright, private equity firms will seek to increase its value by restructuring, refinancing and bolting on further acquisitions.

Private equity firms usually sell investments after 5-7 years, having added debt, improved performance and extracted (often large) returns through dividends.

Private equity investors come with an agenda - usually it is to agree a strategic growth plan which may include bolt-on acquisitions, provide the funds to deliver it and re-finance the business on more favourable terms. Re-financing, also known as 'refi', usually involves replacing, adding and restructuring existing or maturing debt on better interest rates or extended repayment periods. Private equity acquisitions often trip existing debt covenants which limit the actions of borrowers, thereby ensuring a certain level of financial health. A refi is then required.

The growth plan is typically to achieve top line growth and economies of scale via acquisitions and global diversification.

Private equity interest in tank container operators is, however, unusual. Many of the leading tank container operators are long-established, multi-generational, private companies which can self-finance their incremental growth plans through their own credit lines, retained earnings and operating cash flow. Examples include **Hoyer, Bertschi,**



**Den Hartogh and Suttons.** Together, their fleets account for about a third of the top eleven operators.

A notable exception was the structured equity stake taken by publicly traded Apollo Management in Houston-based **Intermodal Tank Transport (ITT)** in 2023. ITT, founded in Medellin, Columbia in 1993, is the largest US-based tank container operator and provides tank container logistics and deport services for bulk liquid chemical and food-grade products. It mainly operates in the Americas and Europe.

Apollo has three investment strategies: yield (interest and dividends, without taking into account capital gains), **hybrid** (investment in multiple asset classes) and **equity** (stocks or private equity shares). Its net **internal rate of return (IRR)** across its flagship private equity funds since inception was 24% (as of Sept 2024).

**Performance metrics and returns**

A key profitability metric is a fund's IRR net of fees. The private equity industry's average annualised IRR was 8.7% as of last June, according to markets data supplier Preqin, but returns have been sluggish in the past three years. Some smaller private equity funds have been forced to

restructure due to the lack of funding from increasingly more selective investors.

Total Value to Paid-In capital is one of several fund performance metrics used. Also known as the investment multiple, it is the multiple of the total fund value - including realised profits and unrealised future profits - compared with the capital paid into the fund. Other valuation metrics include premium to net book value.

Funds distribute returns to their investors and sponsors according to a predetermined plan known as a distribution waterfall. Private equity and asset managers usually do not get any returns until their investors receive an amount equal to their original investment plus a minimum return, known as the hurdle rate, which is typically 8%.

**Tank containers as an asset class**

Leased tank containers are an **attractive** asset class for investors because they are well-regulated, high volume/low value assets with a solid risk/return profile supported by 3-5 year medium term contract lengths which typically have a greater than 80% renewal rate. They offer recurring income streams and predictable cash flows, are a natural hedge against inflation, are used by customers with excellent credit worthiness and have a very low risk of becoming stranded assets.

**Lessors, not operators**

At its most fundamental level, the tank container leasing business model is essentially a net spread between rental income (*i.e. per diems*) and the interest expense (*i.e. the cost of funding the investment in the tank containers to be leased*). The weighted average cost of capital (**WACC**) is therefore one of the most important drivers of profitability and can offer a clear competitive advantage - a low WACC will either give a lessor the commercial strength to drive

rates lower to gain market share or, alternatively, will improve cash flow and earnings. Market share size is desirable as it increases purchasing power when buying new tank containers.

Leasing and maintenance company **Meeberg**, which serves European tank container operators and chemical producers, is one example of where asset managers are active in the tank container industry. In December 2023, **Reichmuth** Infrastructure, a pan-European →



infrastructure asset manager invested in the intermodal logistics and leasing sector by acquiring a stake in the Netherlands-based tank container lessor on behalf of its Clean Mobility Fund.

The move helps Reichmuth Infrastructure to further expand its intermodal equipment leasing footprint. At the time, Stefan Hasenböhler, Chief Executive Office of Reichmuth Infrastructure, commented, “..... ISO tanks have emerged as one of the most environmentally friendly methods for transporting bulk liquids, and Meeberg Group is well-positioned to capitalize on these opportunities. This investment aligns perfectly with our focus on fostering sustainable infrastructure solutions, backing solid businesses with proven success and promising growth potential, and we are confident in the Company’s ability to navigate and thrive in the ISO tanks industry”.

Elsewhere, **Arcus** Infrastructure Partners - an independent infrastructure fund manager - has had a majority stake in tank container lessor **Peacock** since February 2021, as part of its interest in sustainable intermodal assets. It focuses on long-term, mid-market investments in Europe’s infrastructure sector and has €9.1 billion of assets under management. Peacock was the fifth investment by Arcus’s 2018 \$1.35 billion investment fund, Arcus Partners European Investment Fund 2.

In April 2023, Toronto-based **Brookfield** Infrastructure Partners acquired **Triton**, the world’s largest owner and lessor of intermodal containers, for \$4.7 billion. Triton merged with TAL International in 2016 and has a relatively modest fleet of **12,750** tank containers. Brookfield Infrastructure is a leading global infrastructure company focused on assets generating stable cash flows and requiring minimal maintenance capital expenditure.

**CS Leasing**, the fourth largest tank container lessor, is a yield play and is 45% owned by **Maas Capital**, an affiliate of global infrastructure investor EnTrust Global, and 45% owned by TAP Ltd (an investment fund managed by Transportation Capital Group). The remaining shares are held by management. Maas Capital was founded as part of the Fortis Group before merging with ABN AMRO and focuses on smaller investments of over \$25 million in the shipping, intermodal and offshore sectors. The shipping portfolio targets a long term, stable return of 15-20%.

CS Leasing’s fleet has grown rapidly since its formation in 2015 and includes standard T11 tank containers, lined tanks, swap bodies and specialist dry freight units. It has the youngest fleet of tank containers in the market, with an average age of 5 years.

**Seaco Global** is, after Eurotainer/Raffles Lease and Exsif Worldwide, the third largest tank container lessor with a fleet of **43,000**. In February 2023, **Bohai** Leasing Co., the Shenzhen-listed arm of failed Chinese conglomerate

**HNA** Group, attempted to sell the company for a reported target price of \$1.5 billion. The move was driven by its reported need to refinance \$2 billion of senior unsecured notes which were due last September with proceeds from a sale helping to repay an envisaged initial \$1.2 billion one-year tranche. Ultimately, a \$1 billion private loan was secured from RRJ Capital in August.

Seaco Global was bought by HNA from GE Capital and Sea Containers in 2011 for \$1.05 billion, prior to the \$550 million acquisition of rival container lessor Cronos in 2015. In 2019, it failed to sell because of valuation differences of around \$400 million.

Interested parties included **I-Squared**, a private equity and global infrastructure fund firm set up in Miami in 2012 by former partners in Morgan Stanley. Their investment strategy is a so-called platform approach - management teams are backed with an investment of \$200-400 million over the length of I-Squared’s participation. Opportunistic acquisitions have also been made e.g. buying TIP Europe from HNA in 2018 and then refinancing it to make TIP’s cost of capital more appropriate.

Other shortlisted purchasers for Seaco were reported at the time to include **China Cinda Asset Management**, which focuses on distressed assets. It issued a profit warning of its own in January, which may have reduced its appetite for acquisitions (although there may be provincial or state-sponsored support to keep Seaco’s ownership within China). Apollo Global Management and Sumitomo Mitsui Financial Group (**SMFG**) were also interested.

## Depots

Fragmented, growing markets are a key attraction for investment firms as they offer the opportunity to consolidate and reap economy of scale benefits. The tank container depot market is one such market and is attracting the attention of some of the world’s largest investment and private equity firms.

In October 2022, funds advised by Apax Partners sold their majority interest in Boasso Global, a Florida-based tank container depot services company which bought Den Hartogh’s four European depot and tank cleaning businesses in 2017. Acquiring Apax’s majority shareholding, KKR - the world’s second largest private equity firm - announced it would inject more growth capital, via its Global Infrastructure Investors IV fund, to facilitate a merger with Advent-owned US tank wash leader Quala prior to investing in the strategic combination of the two businesses. Further acquisitions have been, and will be, made and a re-branding to Depot Connect International (DCI) has been launched. Significant efficiencies should be achieved if operational processes are aligned. ■

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September 2022

### Planning ITCO Events in 2025

ITCO will be arranging three important events in 2025:

- Tank Container Digitalisation and Efficiency Conference - Antwerp, April 2025
- Tank Container Village at transport logistic 2025 - Munich, June 2025
- ITCO 2025 Annual Members Meeting - Singapore, November 2025

Further details on [www.itco.org](http://www.itco.org)

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