

REVIEW OF THE YEAR

Market dynamics, prices, trends and corporate activity in the global tank container market in 2023

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Mega-Inliner's liner system is opening up a wealth of new business opportunities.

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NEW FEATURE: 'Understanding tank containers', a simple introduction to T-Codes and tank types

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10th anniversary

Tankcontainer

MAGAZINE



"Tankcontainer Magazine has considerable relevance throughout the industry (i.e. everyone involved with tanks from manufacturers, leasing, operators, parts suppliers to depots) and is very widely read. It provides us readers with up-to-date and valuable information about the world of tank containers."

It is informative, readable, topical and relevant - an essential resource tool for the global tank container industry. Thanks to everyone involved for your passionate and professional work! Here is to the next 10 years ..."

Björn Schniederkötter, Chief Executive Officer, HOYER Group

"Congratulations to Tankcontainer Magazine on reaching your 10-year anniversary and here's to many more successful years!"

Hans Augusteijn, President, Stolt Tank Containers

"Tankcontainer Magazine has significantly contributed to the dynamic growth of the tank container as a safe, sustainable transportation and storage medium for global chemical supply chains. With its independent and factual in-depth reporting, the magazine has created broad acceptance along the entire value chain. Our sincere congratulations!"

Jan Arnet, CEO Bertschi Group

"The tank container continues to be recognised as the most safe, robust and agile medium to transport bulk liquids throughout the world. As an integral part of supply chains its numerous unique qualities undoubtedly result in the lowest total cost of operation. The 10 years of professional and bias-free coverage by Tankcontainer Magazine has certainly led to an increased awareness of its attributes."

Mark Warner, Board of Directors, Royal Den Hartogh Logistics

"I've been in the ISO tank industry a long time (too long, some say!) but I always come across some unusual angle, a new piece of interesting information or some original ideas on competitive positioning when I read the magazine. A must-read!"

Owner, ISO operator

"Up to date topics, good insights, and a perfect source of information. Articles are easy to read and can be understood by all the people working in the world of liquids."

Bob Breekweg, Regional Director, Crossover Logistics (Europe) B.V.

"Tankcontainer Magazine has been an added-value media trade player in delivering editorial and advertising coverage as and when appropriate for Seaco and the industry. Thank you and Happy Anniversary from us all at Seaco."

Monique Robinson, Global Marcomms Manager, Seaco

"We have always enjoyed the high quality market intelligence and analysis in Tankcontainer Magazine. Many congratulations and we hope there is more to come."

Top 3 tank container lessor

"Congratulations! Over the past decade, Tankcontainer Magazine has provided invaluable insights, relevant news and expert analysis, making a substantial contribution to the development of the tank container industry. In a constantly evolving sector, the magazine has fostered a deeper understanding of the challenges and opportunities faced by industry players. Here's to the upcoming decade being just as successful as the first ten years. May it be marked by continued innovation, collaboration, and groundbreaking developments in the tank container industry!"

TWS Tankcontainer - Leasing GmbH & Co. KG

"As a leading designer and manufacturer of tank containers it is critical for us to remain abreast of developments in our industry, especially in today's turbulent environment. Tankcontainer Magazine is a great source of information. It covers relevant topics in a concise, easy-to-read manner, allowing us to make informed decisions to better serve our customers, and optimise our operations to add value to all our stakeholders. With the current pace of global change, business leaders need to make quick decisions, and reliable information sources like Tankcontainer Magazine are critical resources."

Andrew Gush, Managing Director, Welfit Oddy, Perseverance, Port Elizabeth, South Africa

"With its great insight and know-how in the tank container industry, Tankcontainer Magazine provides us the newest market and technology information, which enable us to learn the latest news and developments in this industry. Thanks for all Tankcontainer Magazine's efforts in the past years and congratulations for its 10 years' birthday! We wish you the best!"

NTtank - ISO tank manufacturer

"I sincerely wish a happy 10th birthday to Tankcontainer Magazine. The magazine has gathered a lot of audiences from mainstream players in the tank container industry, and we always get the most cutting-edge information and trends of the market. We highly appreciate the editor's scientific approach."

Vice General Manager, Major tank manufacturer, China

"Tankcontainer Magazine gives our members excellent market insights (beyond the bland PR corporate press releases) and has made an important contribution to broadening the awareness of tank container opportunities. No other journal does this."

Tank container association

"Congratulations on 10 years of *Tankcontainer Magazine*, a great insight into the tank container world with up-to-date news on developments across markets and technology, both local and globally. There is always a great cover story with insightful views from our sectors' leaders. The Editorial gives, without fail, an array of information and thought-provoking comments. Good luck for the next 10 years!!!"

Mike Tunstall, Managing Director, Sahreej, Kanoo Tank Service Co. Ltd., Jubail, Saudi Arabia

"Tank Cleaning Services Natal is delighted to extend our warmest congratulations to *Tankcontainer Magazine* on their remarkable milestone of 10 years in the industry. As a leading ISO tank cleaning business in South Africa, we have consistently relied on *Tankcontainer Magazine* for its insightful coverage, cutting-edge industry updates, and invaluable contributions to the tank container sector. Here's to a decade of excellence, and we look forward to continued collaboration and mutual success in the years ahead."

Courtney Grové, Tanker Cleaning Services Natal

"*Tankcontainer Magazine* is the top pick when it comes to reliable information about the tank industry. The meticulous effort for each article is commendable. I would like to share my personal experience that the magazine, and especially the articles by Mr. Leslie, helped me during the start of my career in the industry to understand it more deeply. It gives insights into what is happening in the global tank container industry and it inspires more young bloods in the future too."

Shamnad Arafa, Division Head - ISO Tanks, Jadeer Logistics, Dammam, Saudi Arabia

"Congratulations on the 10th anniversary! We are delighted that SAVVY Telematic Systems AG and *Tankcontainer Magazine* are celebrating their 10th anniversary at the same time.

We at SAVVY are very proud that we have been able to provide *Tankcontainer Magazine*, as a journal exclusively focused on the global tank container market, with valuable content on the subject of digitalisation in the logistics and tank container industry. The magazine has gained considerable popularity in recent years.

Congratulations to the entire team of editors, authors and journalists whose hard work, perseverance and determination have helped the magazine achieve this success.

We look forward to the next decade together and wish you every success in achieving your goals of gaining even more subscriptions and advertisements around the world and providing the industry with relevant information."

Aida Kaeser, Co-Founder & CEO, SAVVY® Telematic Systems AG, Schaffhausen, Switzerland

"We are well-known Executive Search firm involved in many senior appointments in the ISO tank sector. We always prepare our candidates by providing them with *Tankcontainer Magazine*'s 'Review of the Year' and refer them to other articles, such as the excellent Porter's Five Forces analysis of the tank leasing sector.

No other source provides such a focused yet comprehensive commentary of this specialist logistics niche and we thoroughly recommend it. Happy birthday!"

Partner, International Executive Search firm

"In the under-reported tank container industry, *Tankcontainer Magazine* is undoubtedly our 'Go to' source for market insights and commercial intelligence. Everyone has vast databanks and analyses of the dry freight container market but no one that we've come across - and we've looked hard - has the focus and clarity of insight that this magazine demonstrates in its features on the tank container market. Happy birthday!"

Principal, Global infrastructure asset manager

"*Tankcontainer Magazine* not only delivers high-quality content but also understands perfectly what we want to convey in our items. A valuable and beautiful magazine for the tank container market. Congratulations on your 10th anniversary. On to many more!"

Charlotte Keizerwaard, Marketing Manager, Gröninger Cleaning Systems

"We truly value *Tankcontainer Magazine* for its informative content tailored to the tank container industry. Over the past decade, it has been an industry-leading source for staying updated on industry trends, innovations, and best practices. Congratulations on your 10th anniversary, and here's to continued success in providing valuable insights to professionals in the tank container sector!"

Klinge Corporation

"*Tankcontainer Magazine* is committed to delivering insightful content, industry trends and expert perspectives. Congratulations to the entire team for consistently fostering a community of knowledge and innovation within the industry."

Debbie Stranding, Relationship Manager, Pound Gates (Tank container insurer)

"I have been an avid reader of *Tankcontainer Magazine* since its outset ten years ago, and even had the pleasure of contributing to its content. As an SQAS Assessor, and Consultant DGSA to numerous manufacturers, the magazine is an excellent read with a good mix of market information, industry updates and technical insights to keep me updated and maintain my industry sector knowledge. Keep up the good work - congratulations and good luck for the next ten years".

Mark Appleyard, Director, Petrochemical Logistics Sustainability Solutions



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COVER INTERVIEW

18



Our 10th birthday - thank you for your support!



Tankcontainer Magazine is 10 years old and we continue to be the only journal

exclusively focused on the global tank container sector. As the testimonials on the previous page show, we are proud to have had an instrumental role in bringing new talent to the sector and to provide independent and valued insights into the market dynamics of the ever-growing tank container industry. ■

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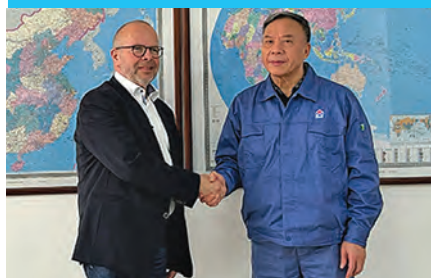
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NEWS

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NEWS



News - NTtank; Peacock; Leschaco; Meeberg Group; Bertschi; SUTTONS; Van den Bosch; Stolt Tanks; Bergheim depot

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MARKET



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ANNIVERSARY

Ovinto, the reference SaaS Platform in Tank container supply chain excellence

Ovinto's mission is to bring 100% visibility in your worldwide tank container fleet management and operations. We take manual repetitive actions away and reduce human errors by:

- 1. Quickly connect & digitize:** flexible and fast connectivity with all relevant data sources to bring all info into 1 single environment.
- 2. Powerful analytics & dashboarding:** creating new insights enabling management by exception.
- 3. Automation:** a powerful RPA (Robotic Process Automation) module to automate complex processes and eliminate repetitive manual tasks.
- 4. Cross analytics:** create extra value by combining data from different silos, eg. analyse unforeseen repair invoices by allocating them to regions, products or customers to discover problems and underlying root causes.



Some examples:

- ✓ Digitize all inspection and repair activities and start performing analytics on them
- ✓ 1 environment with all documents and activities per asset regarding compliance and safety
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Our 10th birthday - thank you for your support!

Tankcontainer Magazine is 10 years old and we continue to be the only journal exclusively focused on the global tank container sector. As the testimonials on the first page show, we are proud to have had an instrumental role in bringing new talent to the sector and to provide independent and valued insights into the market dynamics of the ever-growing tank container industry.

We appreciate the life support that subscribers, advertisers and contributors have given us over the years and hope that our unbiased, insightful and informative articles have repaid their investment in us. Most are **available free-of-charge** at tankcontainermedia.com/magazine-features and include:

1. A Porter 5-Forces analysis of the tank container leasing market (March-Dec 2018)
2. Why are tank containers such a desirable asset class for lessors? (Sept 2019)
3. Why is tank container fleet growth guaranteed over the next 10 years? (June 2021)
4. Is it best to own, lease or outsource tank containers? (March 2022)
5. How will the tank container market develop in the next 5 years? (June 2022)
6. Price commentaries for each tank container type (Sept 2022)
7. How are lease rates calculated? (Dec 2022)
8. Qualitative survey of the global tank container depot market (Sept, Dec 2023)
9. Tank container market 'Review of the Year' (2014-2023)

Our understanding and awareness of the market shines through. Last year, for example, we forecast that turnover for the sector in 2023 was going to be down 10-20%. Sure enough, Swiss-based Bertschi's sales were down 15% to CHF 960 million, a result partly caused by the operator's exposure to Europe's rapid demand decline and made worse by the stronger Swiss Franc. Market leader, Stolt Tank Containers, saw its operating revenue fall 22% to \$700 million in the year ending 30 November 2023. Similarly, last year's fleet growth of close to 6% was our prediction as far back as the middle of 2022.

A new series of articles - '**Understanding tank containers**' - begins in this issue, giving a simplified introduction to some of the key topics in the tank container industry (Page 27). They are written for readers who are not routinely involved in the topics as part of their everyday role and will contain a wealth of market and commercial insights into the tank container market.

This issue's article focuses on **T-Codes and Tank Types**, to be followed by **Leases, Cash-on-Cash Yields** and **Utilisation**.

ITCO's annual global fleet survey showed the **global tank container fleet growing** by 5.8% to 848,400, as of 1 Jan 2024. Unsurprisingly, growth was down from the 8.6% in the pandemic-affected previous year, when tank containers were widely over-stocked and used as strategic storage.

Increased utilisation is a top priority for operators and lessors alike and both are having to work around storage constraints at many depots.

Tank container manufacturing remained fairly robust in 2023 - given the market conditions - with 56,600 new builds, down 17% on the previous year. Demand for new builds was stimulated by lower prices, and the need for fleet upgrades and renewals. Disposals of 10,000 units were an all-time high. As ITCO notes, disposals of older tank containers were made due to age-related problems, having too heavy tare weights or too small capacities, and/or being too expensive to repair. The number of idle tanks increased by 73% in 2023.

This issue also includes the much-anticipated tank container '**Review of the Year 2023**' (Page 18). The tank container market remains soft but is recovering from its alarming year-end slide with continuing firm demand in China and South East Asia and support from the re-routing of container shipping around the Cape of Good Hope - this significantly increases TEU-miles between Asia and Europe and therefore absorbs greater numbers of tank containers than the shorter Suez route for Asia-Europe movements. (Re-routing via the Cape has effectively reduced the supply of chemical tankers by 7-8%).

In addition, the recent - more turbulent - geopolitical environment has raised supply chain anxieties and uncertainties. Higher, more flexible, inventories are now viewed by producers as an essential strategy to de-risk their supply chains and this, together with signs of an end of aggressive de-stocking initiatives, is supporting tank container demand.

But, after the two previous years of record revenues and profitability, it was not a great year for the sector. There is a Dutch expression to describe something that is delicious: '*Alsof er een engeltje op je tong piest*' (As if a little angel is tinkling on my tongue). 2023 was not a delicious year for the tank container industry. ■

Leslie McCune, Editor



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generated KPI's



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- ✓ (ATEX-) Sensor monitoring
- ✓ Container and freight wagon round trip optimisation
- ✓ Fleet management optimisation
- ✓ Shedule monitoring
- ✓ Load detection



New role of European Representative at Nantong Tank Container Co., Ltd (NTtank)

NTtank is pleased to announce the introduction of the newly created role of European Representative. Effective January 1, 2024, this important position will be held by Frank Bolte.

Frank Bolte is a renowned logistics specialist for tank containers and tank wagons with decades of experience in various management positions. His extensive expertise and commitment to excellent customer service make him the ideal candidate for this role. With the introduction of the European Representative, NTtank aims to strengthen and further expand its customer relationships in Europe and to shorten and optimize communication channels.

"We are thrilled to welcome Frank Bolte as our new European Representative," says Mr. Huang, President of NTtank. "With his extensive experience and expertise, he will play a crucial role in strengthening

our customer relationships and further improving our service in Europe."

NTtank is a leading global manufacturer of tank and gas containers. With our many years of experience, we offer our customers specific products of the highest quality. Our goal is to always provide our customers with first-class solutions and outstanding service. ■



Peacock obtains four stars in the latest GRESB assessment

Peacock Container is delighted to have been recognised for its commitment to ESG in the Global Real Estate Sustainability Benchmark Infrastructure Assessment 2023 ("GRESB").

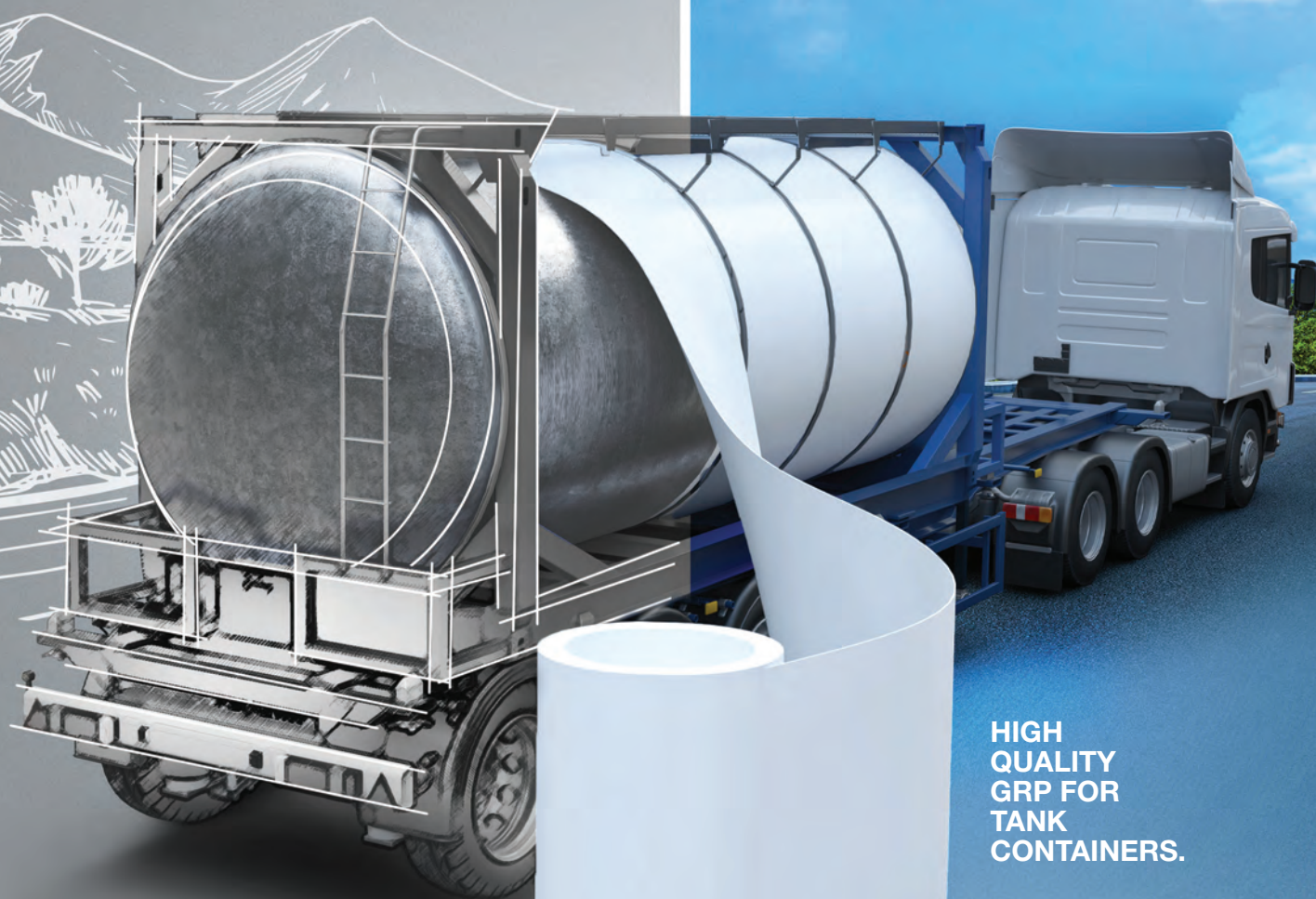
Peacock showed huge improvement, scoring 91 out of 100 points overall compared to 70 in 2022. This compared to an average score of 81 for its peer group. It also achieved a perfect segment score on its ESG performance and secured a four-star rating.

Peacock's tank containers are an important component in a reduced carbon environment due to their suitability for intermodal use. They are recognised as one of the safest and highly durable means of moving liquid and gas products. Peacock strives to be a socially responsible company and integrate sustainability in its strategy and operations.

Jesse Vermeijden, group CEO of Peacock, said: "We are extremely proud of our results in the GRESB assessment, particularly our significant year-on-year improvement. We are always looking at how we operate and considering ways in which we can meaningfully contribute to a more sustainable future. These results demonstrate the progress we are making in achieving our goals. We also have supportive shareholders, who put ESG at the centre of everything we do, and constantly support our efforts to improve. Earlier this year we achieved an EcoVadis gold rating for our progress in managing environmental, labour and human rights, and governance factors. We appreciate this recognition by independent agencies of our commitment to embed sustainability and ESG principles at Peacock. We are already looking at and working on areas for improvement in our ESG performance" ■

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Leschaco appointed David Williams as Global Head of Tank Container and Maximilian Nause as Global Head of Sales

Bremen | January 2024: Leschaco, a leading player in the logistics sector, is happy to announce the appointment of David Williams as the new Global Head of Tank Container. His predecessor, Maximilian Nause is taking over responsibility as Global Head of Sales as of January 01, 2024.



David Williams

David Williams brings a wealth of experience to his new role, demonstrated in a wide range of various previous positions. With a strong track record in Shipping and Logistics & Services he is a business leader with extensive experience proven in various senior management roles since 1991 in AP Møller - Maersk Group. Prior to joining Leschaco Group, David was Vice President, Africa Region Managing Director (Maersk).

As Global Head of Tank Container, David Williams will be responsible for overseeing and driving the strategic initiatives of Leschaco's tank container operations worldwide. His role will involve collaborating with key stakeholders, managing global teams, and further driving innovative solutions to enhance operational efficiency and customer satisfaction.



Constantin Conrad

David Williams to our leadership team. With him at the helm, we are setting the stage for the successful continuation of our Tank Container

story. His global vision, interpersonal skills, and dedication to excellence align perfectly with our values and goals. We believe that this new and complementary addition to our Group is an exciting step forward in our journey toward ambitious growth, sustainable success and operational excellence."

David Williams commented, "I am honored to join the Leschaco Group at such an exciting time. The global tank container industry is dynamic and full of potential. I look forward to working with the talented teams at Leschaco to capitalize on opportunities, drive innovation, and deliver exceptional value to our customers."

Maximilian Nause, former Global Head of Tank Container, is taking over responsibility as Global Head of Sales as of January 01, 2024. In this new role, he will not only lead the global sales organisation of the Leschaco Group but will also drive the global implementation and investments of the new sales strategy aimed at enhancing the sales structure further for the benefit of their valued customers worldwide. Maximilian Nause, coming from within the Leschaco Group, brings a deep understanding of products, services and customer needs. By fine-tuning the sales approach, the globally active logistics service provider will be able to respond even better to the evolving customer needs and preferences as well as regional specificities, ensuring a more personalized customer experience.

"Our robust and powerful sales organization is the driving force behind our success, consistently exceeding targets and setting new standards for customer satisfaction. We are excited to see Maximilian Nause take on this pivotal role. His in-depth knowledge of our business and unwavering commitment to customer satisfaction makes him the ideal person to lead our global sales efforts and drive positive change," concluded Constantin Conrad.



Maximilian Nause

Maximilian Nause commented: "I am thrilled and deeply privileged to assume the role of Global Head of Sales, a position that

holds both significance and promise as we chart our course towards achieving the corporate strategy goals set for 2030. Our shared commitment to excellence, customer satisfaction, and ethical business practices will be the guiding principles as we forge ahead." ■

Company information: The Leschaco Group is a traditional, owner-managed logistics service provider and offers intercontinental logistics solutions for sea and air freight as well as contract logistics and tank container operation.

As proven partner for leading companies in plant construction and mechanical engineering, automotive, chemical and related industries, producers of consumer goods and pharmaceuticals. Leschaco offers comprehensive logistics solutions from one single source. Our globally standardised IT-environment guarantees the required high process transparency.

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

Annual Production
12000 TK



01

Product

- ✓ Standard tank
- ✓ Lined tank
- ✓ Gas tank,
- ✓ Food grade tank
- ✓ Electrical tank
- ✓ Reefer tank
- ✓ Baffle tank
- ✓ AHF tank
- ✓ Hydrogen peroxide tank
- ✓ Metallic Sodium tanks
- ✓ IBC/SBC tank
- ✓ T20/T22 tank

02

Service

- ✓ Global service network

03

R&D

- ✓ ASME U&U2, C3, LR, BV, CCS, RMRS, DNV certifications
- ✓ 300+ patents
- ✓ 350+ engineers

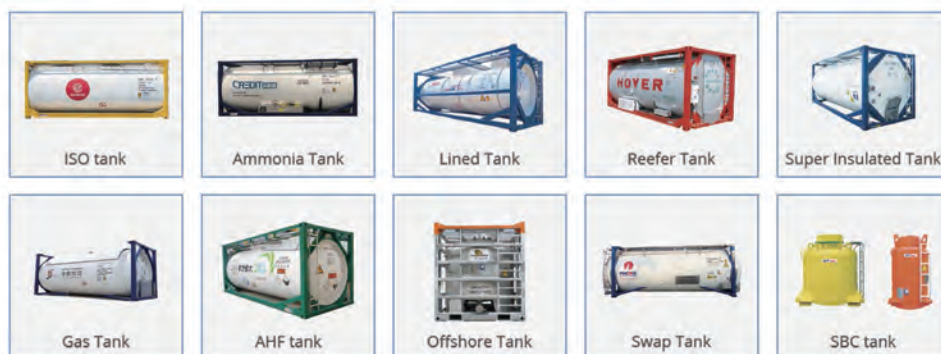


Nantong Tank Container Co., Ltd

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.

The faith of NTtank is to provide its customers with tanks and services of the highest quality and reliability consistent with sound commercial practices and economic consideration.



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Meeberg Group announces partnership with Reichmuth Infrastructure for expansion in ISO Tank leasing



Meeberg Group is excited to announce a strategic partnership with Reichmuth Infrastructure, a leading pan-European infrastructure asset manager. This collaboration marks a significant milestone for both companies, aiming to propel Meeberg Group to new heights by enhancing its ISO tank leasing fleet and operations.

The partnership between Reichmuth Infrastructure and Meeberg Group is strategically designed to increase and diversify the ISO tank leasing fleet, taking advantage of the growing demand for efficient and sustainable bulk liquid transportation solutions globally.

Eelco van de Meeberg, CEO of Meeberg Group, expressed optimism, saying, "This strategic partnership represents a significant milestone for our Company and we are confident in our ability, together with Reichmuth Infrastructure's support, to capitalize on the growth opportunities within the ISO tanks industry. We are confident that this collaboration will unlock synergies that will not only bolster

our operational capabilities but also bring about exciting opportunities to accelerate our expansion. We look forward to combining our strengths and collectively steering the Company towards the achievement of our shared targets, rooted in values like reliability, flexibility, trust, expertise, and unwavering commitment towards our customers."

Reichmuth Infrastructure and Meeberg Group are set to increase and diversify the ISO tank leasing fleet, solidifying the companies' commitment to environmental sustainability. Stefan Hasenböhler, CEO of Reichmuth Infrastructure, expressed excitement about the venture, stating, "We are thrilled to join forces with Meeberg Group and believe in the strength of their business model. ISO tanks have emerged as one of the most environmentally friendly methods for bulk liquid transportation, and this investment aligns perfectly with our focus on fostering sustainable infrastructure solutions."

The partnership not only presents an opportunity for Meeberg Group to expand its intermodal equipment

leasing footprint but also positions Reichmuth Infrastructure to grow its presence in the ISO tanks industry. Hasenböhler added, "We are confident in the Company's ability to navigate and thrive in the ISO tanks industry, and we look forward to contributing to its success. ■"

REICHMUTH & CO



Bertschi continues to invest in global logistics network and sustainability

Chemical logistics center opened in China - weak global economy leads to declining revenues

- New chemical logistics hub in Zhangjiagang (China) has started operations
- First nearly CO₂-free door-to-door supply chains launched across Europe
- Over CHF 90 million invested in sustainable logistics both in Europe and globally
- Declining volumes due to lower chemical production lead to a drop in sales to CHF 960 million
- Outlook for 2024 remains uncertain due to global economic challenges
- Significant investments in logistics infrastructure planned for 2024
- Bertschi's presence expanding to Japan



Opening Ceremony

The volume declines that began a year earlier continued in 2023. The chemical industry, the Bertschi Group's main customer sector, continues to suffer from high gas/electricity prices and generally weak sales in Europe. This has led to significant declines in European transport volumes. In the overseas transport business, the sharp rise in shipping prices during the COVID-19 phase has normalised. With supply chains regaining smooth operations in 2023, some overcapacities have become apparent. These factors are putting pressure on margins, accentuated by a stronger Swiss franc. As a result, sales fell significantly by 15% to CHF 960 million. "Following a record year in 2022, we faced a more challenging economic environment last year. Nevertheless, we are satisfied that we were able to achieve a positive business result despite these economic

headwinds," says Hans-Jörg Bertschi, Executive Chairman of Bertschi Group.

First green supply chains realised across Europe - target of CO₂ neutrality by 2050

With innovative customer pilot projects, several nearly CO₂-neutral door-to-door supply chains across Europe could be realised in 2023 by linking intermodal rail transport with trucks powered by biofuels. Bertschi already handles 90% of all European land transports via intermodal rail transport, thereby reducing CO₂ emissions by 230,000 tonnes annually. The focus of these projects was on optimising the first and last mile of the supply chain, which are handled by road. Hydrogenated vegetable oil (HVO) is used as a fuel to power both the terminal vehicles and the trucks. This allows CO₂ emissions to be

reduced by up to 90% compared to conventional road transport.

Following these successful implementations, the concept is to be extended to other supply chains. These are important steps for Bertschi Group to achieve CO₂-neutral production by 2050.

Opening of chemical logistics center in China as largest single investment

After several years of planning, approval and construction, Bertschi officially opened its new chemical logistics center in Zhangjiagang (China) in mid-2023 with a ceremony attended by customers, political representatives, and employees. The storage and filling center has a capacity of 25,000 tonnes of liquid products stored in tankcontainers and 25,000 tonnes of packaged goods as well as automatic filling systems. It is strategically located in the Yangtze River Delta, in close proximity to Shanghai. "The new hub enables us to support our customers locally with their expansion plans in China and further develop the import market for liquid speciality chemicals. It also ideally complements Bertschi's global logistics network and enables worldwide door-to-door supply chain solutions," says Jan Arnet, CEO of Bertschi Group.

In addition to this largest single investment in the company's history, Bertschi also pushed ahead with various logistics infrastructure projects in Europe and continued to invest in the expansion of its container fleet. The fleet grew by 7% to 44,000 units in 2023. ➔



Zhangjiagang (CN) Hub

Major progress was also made in the company's digital transformation. This has enabled Bertschi to consolidate its leading market position in terms of visibility and connectivity in chemical logistics transport chains. In European transport, for example, customers are informed of deviations from planned data in real time via the automated transmission of scheduled arrival dates and therefore have full transparency regarding the delivery status of their products. Another milestone is about to be reached with the planned replacement of the previous systems for global transport planning and processing with a fully integrated, innovative in-house development in 2024.

Significant investments and new JV in Japan in 2024

The global economic situation is likely to remain challenging in 2024, influenced by geopolitical uncertainties. Bertschi's global business in particular is therefore proving to be increasingly volatile and challenging in

the new year. In contrast, the decline in transport volumes caused by the recession in European industry is expected to have bottomed out in the second half of 2023. Demand in Bertschi's European business is likely to stabilise at relatively low levels in 2024. "The renewed increase in global supply chain disruptions at the start of 2024, the major geopolitical uncertainties, and the volatility in the markets make it difficult for us and our customers to provide an outlook. One positive effect should be that customers are increasingly setting up containerised safety stocks with us so that they can access their products flexibly and promptly," comments Jan Arnet.

Bertschi also wants to take in 2024 another step towards its goal of CO₂ neutrality by 2050. Following initial trials in Scandinavia and Germany last year, the first electrically powered heavy 40-tonne trucks will now also be used at the Birrfeld (CH) intermodal rail terminal and electric charging stations will be installed. The aim is to develop and implement further NetZero concepts. Bertschi is also investing heavily in the expansion of the European rail and intermodal infrastructure for road, rail and water. A large trimodal transshipment terminal with container storage infrastructure - including dangerous goods - is currently under construction in Antwerp, and will begin operations in the second half of 2024. Handling and storage capacities at the Bertschi trimodal terminal in Rotterdam will

be significantly expanded with the installation of a second gantry crane. Due to the ongoing geographical diversification of global supply chains, Bertschi expects demand for these new capacities to increase over the next few years.

In addition to investing in the expansion of the container fleet, the main focus in global business is on the successful implementation of door-to-door logistics concepts. With the new hub in Zhangjiagang (CN) and the existing chemical hubs in Singapore and Europe, Bertschi offers its customers a first-class network to optimise the costs and customer benefits of global supply chains and increase their efficiency. Bertschi's close-knit infrastructure in Europe creates exciting opportunities to integrate the storage and distribution of products on the continent into global flows. The partnership with the Uyeno Group, Tokyo (Japan), which was launched in 2023, will contribute to the expansion of the global network. The joint venture with the major Japanese family-owned chemical logistics and trading company will commence operations in 2024 and enable further growth in the Japanese market for tankcontainer services.

Winner of the Prix SVC Nordschweiz

By winning the Prix SVC Nordschweiz, the Bertschi Group received a special honour. The prestigious prize, which is only awarded every two years, is intended to put successful companies in the public eye and honour their achievements. Bertschi was able to secure the top spot in a high-calibre field of nominated companies from all economic sectors and was awarded the prize for its pioneering work and commitment in the areas of sustainability, safety, and innovation. Hans-Jörg Bertschi expressed his thanks upon receiving the award on behalf of the Group, and addressed his words specifically to the employees: "We are honoured to receive the Prix SVC Nordschweiz 2023. This achievement would not have been possible without the exceptional dedication and hard work of Bertschi's employees. They are the driving force behind our success, and we share this award with each and every one of them." ■





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SUTTONS Evolves its strapline to align to its commitment to sustainability



SUTTONS

Delivering life's essentials safely and sustainably

Suttons has recently seen an evolution of its strapline to align to its environmental, social, and corporate governance strategy. The strapline is 'Delivering life's essentials safely and sustainably'.

As a leader in the transportation and logistics industry, Suttons recognises the unique challenges and opportunities presented by sustainability.

The global bulk logistics provider is committed to driving positive change by promoting sustainable practices and minimising its environmental impact in alignment with the United Nations Sustainable Development Goals.

Suttons Tankers' ESG policy is based on the ROAR strategy—Reduce, Optimise, Alternate, Replace—a strategy designed to transform and reduce its carbon footprint.

From telematics optimising its truck routes to the exploration of alternative fuels like Hydrotreated Vegetable Oil and investing in new engine technologies, Suttons Tankers are determined to lead the change towards a greener future.

The International division are delighted to have received a Silver



sustainability rating from ESG experts EcoVadis which reinforces its commitment to being a truly sustainable transport provider to its customers.

Suttons are leading the way with alternative fuels in the bulk haulage industry and its recent HVO trial delivered an 80% reduction in carbon emissions. They are also using 100% renewable electricity at all its owned sites, significantly reducing its Scope 2 emissions.

Its UK Tanker division have been reducing emissions year on year through a combination of fleet investment and improvement in driving style. Its fleet has reduced CO2 emissions by 13,900 Mt which is equivalent to removing over 3000

gasoline-powered passenger vehicles from the road for a year.

John Sutton, CEO of Suttons commented:

"The evolution of our strapline marks an exciting time for our business and we are already seeing excellent results through our commitment to sustainability."

The logistics industry have a huge responsibility to pave the way for a greener future and I am proud that Suttons are at the forefront of this movement." ■

Van den Bosch is first independent carrier to meet ISO 14083 requirements

ERP, 18 January – Van den Bosch is the first carrier worldwide to be independently verified for CO2 emission calculations and reporting that meet the applicable requirements from ISO 14083:2023. This confirms that CO2 emissions are calculated and reported in a demonstrably reliable manner, fully in line with European legislation and environmental requirements.

Since the first quarter of 2023, there has been an international standard for allocating CO2 emissions from activities in the transport chain: ISO 14083. Based on these requirements, logistics companies and their service-providers can clearly calculate, allocate and share their carbon footprint within the chain. Van den Bosch achieved the result following an independent review by LRQA, with its CO2 calculation meeting the requirements of ISO 14083. LRQA is an organisation with expertise in certification, accredited to the ISO 17021 standard.

The only one in the world

Van den Bosch was part of a pilot group set up by Topsector Logistiek. Topsector Logistiek is a tripartite partnership between people from the business community, science and the government. The pilot group was set up in order to translate the ISO standard into a practical guide which also included a self-assessment questionnaire (SAQ) for assessing ISO 14083 within the organisation.

This result makes Van den Bosch the only company in the world to have both an in-house CO2 calculation and a CO2 platform that meet these requirements and allow CO2 emissions to be calculated and allocated throughout the supply chain. It also enables the logistics service-provider to allocate CO2 emissions per activity.

Strategy objectives

"The verified CO2 calculation means that we can meet customer requirements by being able to allocate CO2 emissions to specific shipments, modalities and suppliers, for example, in accordance with the standard" said Brecht den Otter, Sustainability Specialist at

Van den Bosch. "Besides this being a milestone in terms of our CO2 calculation, it also represents a step forward on our route to 2030 where sustainability is a major focus. We can be proud of this achievement which fits in precisely with our sustainability concept from that strategy. We are now able to set realistic CO2 reduction targets for 2030."

About Van den Bosch

Van den Bosch is an international logistics service provider specialised in the transport of liquid and dry bulk goods for the food and chemical industry. The company serves the global market with both road and intermodal transport. Van den Bosch operates from thirteen branches in Europe, Africa and the Middle East. The head office is located in Erp, the Netherlands. www.vandenbosch.com

More information

For more information, please contact the Communication Department at communication@vandenbosch.com or +31 (0)413 217217. ■



Stolt Tank Containers reports revenue



Stolt Tank Containers reported fourth-quarter revenue of \$228.5 million, down from \$242.9 million in the third quarter.

Transportation revenue decreased by 14.8%, driven by a decrease in shipments and transportation rates as ocean freight costs declined. Demurrage revenue increased as customers were holding on to tanks longer. Utilisation was down

marginally from 68.4% to 67.0% as volumes out of Europe reduced.

Trucking costs

STC reported a fourth-quarter operating profit of \$44.9 million, up from \$43.1 million in the third quarter. The lower revenue was offset by a continued decrease in ocean freight cost, as liner space continues to open up, while trucking costs were slightly down quarter-on-quarter due to lower volume. During the quarter, the fleet increased marginally to 46,994 tanks. ■

Heating of tank containers at the Bergheim depot

KUBE & KUBENZ announce that they are able to offer heating services at their depot in Bergheim!

KUBE & KUBENZ can offer now a water-glycol heating station with heating possibilities up to a maximum temperature of 95°C. They can heat up to four containers at the same time! Certain ADR Products are also possible. ■



Correction & clarification. In December's issue, we referred to Raffles Lease as Raffles Leasing, for which we apologise. The company is not opening a depot in Houston, as we reported. The 2020 acquisition of DEMI Container Services BV was completed by then Ermewa Group (now Stroom). Eurotainer had no involvement with the purchase. The image of DEMI's facility in Houston was inadvertently used without permission, for which we apologise.

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2023 Review *of the year*

Tank container market expert Leslie McCune considers last year's retrenchment in the sector as it normalised after the one-time distortions of the pandemic and then slowed at the end of the year.

In last year's 'Review of the Year' we expected 2023 to be a chablis kind of year after the champagne years of 2021 and 2022. Instead, it turned out only to be a warm chardonnay sort of year with standard T11 tank container prices falling from a high of \$23,000 in 2022 to end-2023 prices of under \$15,000 for large buyers.

With smoother and more reliable post-Covid supply chains, fewer tank containers were required and operators returned equipment to lessors with gusto in 2023, filling up depots and restricting handling capacity. Underlying demand also slipped during the year and by year-end there were an estimated 20,000 new build tank containers in manufacturers' yards in China waiting to be employed.

Lease rates for plain vanilla T11s weakened down to \$6-6.5/day. There were soft pockets well below this - sometimes associated with contract extensions - but other segments with more robust pricing, usually dependent on more technically-specified equipment.

Demand dynamics

It was hoped that the tank container market would, through the year, revert from its one-off pandemic period of exceptional demand back to its long-term average but confidence remained fragile in most chemical markets throughout 2023.

Europe's chemical producers started the year with just over 50% capacity utilisation compared with the long term global average of over 75%. China - by far the largest producer and market for the specialty chemicals moved in tank containers - entered its worst deflationary spiral since 2009 with year-on-year prices and services falling by almost 1.4% in real terms. There is a record-high oversupply of petrochemicals in China - the world's second largest economy - due to the loss of demand growth expectations but, despite transitioning to permanently lower economic growth, China is forecast to account for 75% of global chemical growth and aims for petrochemical self-sufficiency.



Demand decline was most noticeable in Europe, where its dependency on naphtha feedstock and unique exposure to high energy prices has made much of its commodity petrochemical production globally uncompetitive, a situation made worse by chemical logistics costs reaching record highs in 2023. New raw material supply sources are being developed - at a cost - and the prospect of substantially higher carbon prices and more ambitious carbon dioxide reduction targets will further reduce the region's competitiveness.

Tank container markets in the US, South East Asia and China were more robust although most markets had a sharp year-end fade as chemical producers freed up cash by slashing year-end inventories.

2024 has begun a little more positively with the re-routing of container ships around the Cape of Good Hope absorbing greater numbers of tank containers due to longer passage times and TEU-miles, although re-positioning in and around the Mediterranean may be impacted. (Re-routing via the Cape has effectively reduced the supply of chemical tankers by 7-8%). In addition, the recent - more turbulent - geopolitical environment has raised supply chain anxieties and uncertainties. Higher, more flexible, inventories are now viewed by producers as an essential strategy to de-risk their supply chains and this is supporting tank container demand. Nevertheless, the market remains soft despite signs of reduced destocking.

Food grade movements account for 5-7% of all tank container movements and stayed relatively firm with a high number of swap body tank containers being used.

Market Themes

2050 is widely targeted as the event horizon to become carbon-neutral. **Decarbonisation** is therefore a strategic

imperative for the major chemical producers so carbon-intensive global supply chains that are major contributors to the overall carbon footprint of end-products are under threat. Less carbon-intensive solutions include intermodal movements. Those tank container operators more directly involved in rail, such as Bertschi, are advantaged, although the lack of interoperability in the European rail system is one of several frustrations hampering the wider use of intermodal rail transport (others include substantial price increases and a neglected German rail network).

Other themes included increased collaboration between supply chain players, improved visibility and stronger pressure for sustainable solutions.

The **shipping** market **normalised** in 2023 although conflicts in the Middle East at the end of the year created a wholesale re-routing of ships around the Cape, causing shipping rates to spike upwards. Longer ocean passages, heightened supply chain uncertainty and higher freight rates all translate into higher demand and/or increased margins for tank container operators.

Rising volatility has made tank container demand **less predictable**, forcing operators and lessors to offer more flexible contract terms and equipment. For dedicated tank containers, longer term contracts are more usual and provide extra security and business resilience.

2023 saw **new tank container flows** - both in terms of products and trade lanes - as global supply chains adapted and restructured to changing market realities. A broader range of products was carried, many of which - such as high purity sulphuric acid for semi-conductors - are temperature-sensitive.

The geopolitical push for the **re-shoring** of some manufacturing supply chains changed several long-established trade lanes. These will continue to shift due to systemic chemical over-capacity in some regions - closures are inevitable.

Several marine bulk chemical shippers continued their **modal shift** from parcel tankers to tank containers, amid sustainability concerns. Dow Europe, for instance, is asking operators to take tank containers off the road and move them via rail or barge instead.

There were concerns among leading stakeholders in the tank container industry that the current lack of **depot availability** is structural, rather than transitory. This could constrain tank container growth and raise operating costs for lessors and operators, for whom depot costs are a significant cost component. Left unaddressed, this could make tank containers a less attractive transport option.

In 2023, *Tankcontainer Magazine* published the first publicly-available qualitative assessment of the global tank container depot market. This analysed the causes of the storage problem that became more acute as the year progressed and considered the consequences of

tank container storage tightness. We asked whether the investment returns supported new depots, discussed how storage capacity could be increased and assessed the impact on the depot/cleaning sector of the recent M&A activity by global investment giant KKR - which backed Boasso's merger with Quala (and their subsequent acquisition of MTC in the Netherlands). Lessors appear more proactive in protecting their interests by investing in depots.

Global fleet increase

ITCO's annual global fleet survey showed the **global tank container fleet growing** by 5.8% to 848,400, as of 1 Jan 2024. Unsurprisingly, growth was down from the 8.6% in the pandemic-affected previous year, when tank containers were widely over-stocked and used as strategic storage.

Increased utilisation is a top priority for operators and lessors alike and both are having to work around storage constraints at many depots.

Tank container manufacturing remained fairly robust in 2023 - given the market conditions - with 56,600 new builds, down 17% on the previous year. Demand for new builds was stimulated by lower prices, and the need for fleet upgrades and renewals. Disposals of 10,000 units were an all-time high. As ITCO notes, disposals of older tank containers were made due to age-related problems, having too heavy tare weights or too small capacities, and/or being too expensive to repair.

Of the 240-plus operators, the top 10 accounted for over 50% of the global tank container operators' fleet of 587,970. The top 10 lessors accounted for 85% of the leasing fleet of 372,195.

The number of idle tanks increased by 73% in 2023.

Tank container prices

Prices faded throughout the year but indicative mid-year prices were: T11 (\$17,000); swaps (\$21,000); 20' T50 carbon dioxide gas (\$110,000) and 40' LNG (\$120,000). However, prices varied significantly, depending on fittings, order volumes, delivery point, etc.

With new build tank container prices guaranteed to fall last year, the obvious procurement strategy was to delay purchases until later in the year. Market leader Stolt Tank Containers, which had its biggest increase in shipments for at least 12 years in 2023, adopted this strategy, spending just over half its 2023 capital expenditure of \$68 million in Q4.

Lessors

Despite investments by KKR (Boasso/Quala, now Depot Connect international), Apollo (ITT) and Toronto-based Brookfield (Triton), higher interest rates suggest that private equity's role in the sector will be more challenging. Infrastructure funds such as Brookfield are attracted by assets that generate stable cash flows and require minimal maintenance capital expenditures. ➔

In the decade-long era of low interest rates, rising asset price meant that private equity returns were all but guaranteed - it was harder to fail than to succeed. With higher interest rates, private equity investors now have to work much harder, relying instead on their ability to improve earnings and grow businesses to generate profits rather than simply enjoying the ride of an expanding market.

That said, borrowing is still relatively cheap in real, inflation-adjusted, terms. The US central bank took its benchmark interest rate from 0 to 5.25%, a 22-year record, at a record pace (the Federal Reserve's benchmark rate is expected to fall from 5.4% to 4.6%, 3.6% and 2.9% in the next three years).

Bohai Leasing, the Shenzhen-listed arm of recently bankrupt Chinese conglomerate HNA, continued to study divestment options last year after struggling to refinance some of its debt. This inevitably brought container leasing business Seaco back into focus again, which was marketed in 2019 but failed to sell due to valuation disagreements.

Lessors tend to be divided between those, like CS Leasing, which prefer a large, flexible fleet of mainly T11 tank containers (although it also has an extensive fleet of dry freight special containers) and others, like TWS, which focus more on offering customer-specific tank containers backed by longer lease contracts. Both, of course, are valid strategies.

Operators lease-in

There are many good reasons for operators to lease-in, not least that it provides a flexible way to meet short-term demand without the costs and obligations of long-term ownership. Leasing is, of course, an operating expense which can be expensed immediately but may be more expensive in the long-run. In contrast, the capital expenditure required for the purchase of tank containers may be a substantial upfront financial investment which must be depreciated over time. Depreciation is tax-deductible and therefore reduces cash outflows.

Tank container operators are the largest customers of lessors but their dependency on leased-in equipment varies. In 2023, Suttons has only 2,500 (16%) of its fleet of 15,000 leased-in while Hoyer planned to reduce its leased-in fleet from approximately 30% to 25% of its widely specified fleet. NewPort has a much higher percentage of leased-in equipment.

Utilisation

Utilisation rates also fell throughout the year as equipment was off-hired and returned to lessors. Meanwhile, new build inventory in China escalated to an estimated 20,000 units. In an effort to sustain utilisation rates - and avoid the cost of empty tank container storage - lessors offered



extensions at low per diems. Those lessors with a higher proportion of generic T11 tank containers in their fleets saw a more rapid fall off in utilisation than those with more specialised equipment, which is often on longer leases with higher per diems.

Manufacturing

Last July, Thielmann sold its defence and security businesses, including specialist tank container manufacturer WEW, to the Dirks Group. With a fleet of 3,000 tank containers for fuel and drinking water, WEW is the largest supplier of tank containers to NATO forces.

Early in the year, lower prices were said to be available on some tank container batches in China as a result of Tianjin-based TISCO reducing their 316L stainless steel prices to CIMC, Singamas and JJAP to counter the wider plate size of South Korean-based POSCO (wider plates imply better quality since fewer weld seams are required, reducing the potential for intergranular corrosion and problematic surface finish).

At the macro level, conceptual talk of a 'China+1' sourcing strategy for tank containers continued, with some thought focused on developing standard T11 tank container manufacturing in Vietnam, Turkey or the US. Any major increase in the production of generic tank containers in South Africa is unlikely.

Driven by government pressure, low carbon manufacturing will become the norm for manufacturers in China and that, to a certain extent, will reshape the tank container industry. Tank container manufacturers are responding to Xi Jinping's 'clear waters; green mountains' slogan with CIMC, for example, moving from solvent to powder coatings.

Equipment

21m³ and 24m³ tank containers are becoming obsolete for standard chemical loads with few manufacturers now building significant numbers and re-sale values low. The state-of-the-art work horse is 26m³ although many operators and customers still like 25m³.

Baffle tanks are more versatile but, with 10% more stainless steel, are more expensive and have slightly higher operating costs due to the extra cleaning of hatches and gaskets (although Welfit Oddy's patented baffle system has one less cleaning port).

European intermodal traffic inevitably has higher average volumes due to the greater use of 30-35m³ swap body tank containers. Swap bodies are in strong demand in China.

T75 cryogenic tanks for LNG were very busy in the US in 2023 although they have not taken off in Europe. In general, cryogenic tank containers are a very expensive,

inefficient and energy-intensive way of transporting LNG. Technical development problems continued with some LNG rail tank cars in 2023.

Digitisation

Most tank container players are building resilience and visibility by focusing on the digital transformation and integration of their processes with those of their customers and service partners. Blockchain technology is being leveraged to achieve transparency - relying on legacy networks is no longer a basis for keeping competitive.

Telematics provide the tank container and railcar industry with smart sensor technology and web applications generating insights to improve delivery performance, operational efficiency and safety. According to one survey, 6-7% of the 2023 tank container fleet was 'smart' with the majority based on IMT technology. Savvy and Nexxiot, also offer telematics for tank containers and rail cars.

In 2023, Peacock became the first lessor to offer its whole fleet with 'smart' IMT telematics.

M&A

The strong environmental credentials of tank containers means that they continue to be attractive to those investors focused on sustainable infrastructure assets, especially in the bulk liquid market. Others, already in the market, are looking to expand their presence. Meeberg, for example, will leverage its new strategic partnership with pan-European asset manager Reithmuth Infrastructure to expand and diversify its tank container fleet.

In 2023, Daelim signed a memorandum of understanding with Royal Den Hartogh Logistics to establish a strategic alliance to explore potential synergies that will boost operational efficiencies and new business opportunities.

Last June, private equity giant Apollo, announced a structured equity investment for a stake in Houston-based Intermodal Tank Transport (ITT), the largest US-based tank container operator, which also has a number of depots.

The entry of a global asset manager like Apollo into the tank container operator space is unusual as most private equity interest centres on the leasing and depot segments, where interested parties have included KKR, Arcus, EnTrust/Maas Capital, Apax, I-Squared, China Cinda and SMFG. Toronto-based Brookfield Infrastructure bought out Triton, the world's largest lessor of intermodal freight containers, for \$4.7 billion in September 2023.

Older equipment is the first to be returned to lessors in an industry slow-down with one lessor disposing of



a significant amount of older equipment in 2023. The disposal of elderly tank containers releases capital and reduces the average fleet age. Both are important items in the Prospectus used to market a company so this may suggest future M&A activity.

A number of ambitious, well-back Asian tank container operators are looking for a wider global position in 2024.

Safety

Tank containers have an exceptional safety record but last July, a Jordanian court imposed a three-year prison sentence on five individuals in relation to a lethal chlorine gas leak that occurred in 2022 when a rusted

metallic 8.6 ton maximum load cable lifting a laden 28.9 ton chlorine tank container snapped, causing the tank to rupture on the deck of a ship docked in Aqaba. The incident claimed the lives of 13 people - the worst ever in a tank container accident - and resulted in a fine of \$4,234.

In the same month, Stolt Tank Containers recorded a legal claims provision of \$155,000,000 (equivalent the last six quarters of net profit) relating to the 2012 *MSC Flaminia* explosion, when three died.

Depots

The cleaning station map widened with Van den Bosch's new depot in the Ivory Coast adding to its Ghana facility, which it opened 2016. The company is deepening its African food business and added 500 food grade tank containers in 2023, bringing its dedicated food and drinks fleet to over 3,000 owned tank containers.

Legend opened its second Indian tank container depot in Kandla at the start of 2023, two years after opening its first site in Nhava Sheva, which coincided with the opening of Zodiac/Samsara's nearby facility.

Bertschi completed the construction of its huge new logistics centre for dangerous liquid chemicals in Zhangjiagang, on the Yangtze River Delta close to Shanghai, and received its final operating license in January 2023. The storage and filling centre is considered to be one of the safest and most sustainable chemical logistics centres in China.

More generally, the rate of expansion of dangerous goods ('Gefahrgut') storage and handling capacity is far slower than the rate of fleet growth.

Conclusion

There is a Dutch saying for calling something delicious: 'Alsof er een engeltje op je tong piest' (As if a little angel is tinkling on my tongue). 2023 was not a delicious year for the tank container industry. ■

Leslie McCune (lm@chemicalmanagement.co.uk)



Free *from cleaning*

By **eradicating** the need for **tank container cleaning**, **Mega-Inliner's** revolutionary **tank container liner system** is **opening up** a wealth of **new business opportunities**.

While inliners have long been available for drums and intermediate bulk containers (IBCs), the same has not been true for tank containers. However, that has all now changed thanks to a highly innovative system developed by Netherlands-based Mega-Inliner. "The Mega-Inliner® System is the combination of the Mega-Inliner® and the Mega-Inliner® Tank Container," explains company founder Sidon van Laarhoven. "This bag-in-tank principle stands out by its simplicity, ensuring an unprecedented impact on how liquid foodstuffs and all other non-hazardous liquids are transported."

“

After unloading with compressed air, the Mega-Inliner® Tank Container remains clean and is immediately ready for the next load without any prior cargo restrictions

Sidon van Laarhoven, company founder, Mega-Inliner

”

"After unloading with compressed air, the Mega-Inliner® Tank Container remains clean and is immediately ready for the next load without any prior cargo restrictions," he continues. "With Mega-Inliner, it's easy to connect in and outbound logistics by removing the Mega-Inliner® after each load, resulting in no empty kilometres to and from cleaning stations, no more waiting, no more wasting of valuable water and zero use of detergents."

No wear and tear

"Conventional tank containers have been on the market for years and have their own market segment," van Laarhoven says, noting that the 20-year life cycle of a standard unit "is normally divided into 10 for food and 10 for chemicals" prior to ultimate end-of-life scrapping. The Mega-Inliner® units, on the other hand, have "a perpetual" life cycle thanks to the protective benefits

offered by the system's inliner component. "There is no wear and tear because the transported liquid is never touching the tank surface. Previous cargo restrictions belong to the past: all Mega-Inliner® tanks can transport all non-hazardous liquids load after load," he states.

Admittedly, non-hazardous liquids could similarly be sent via a flexitank inside a conventional 20' box container. However, this option, van Laarhoven observes, is not always ideal. "A flexitank in itself is a heavy object using at least nine different materials, which makes disposal extremely difficult and expensive," he says, adding that the handling required in unloading such a system is both "inefficient and costly". Furthermore, the assumption that any 20' box container is suitable for flexitank use is erroneous. "Customers are selective as to which containers meet their specifications," he reports, stating that flexitank use "becomes economically less interesting" as the specific gravity of the transported product increases due to the relatively low weight restrictions placed on loaded box containers compared to loaded tank containers.

"Mega-Inliner® is the best of both worlds," he says. "A tank container with an inliner makes it possible to use this equipment freely in all market segments, without boundaries. By cutting out all cleaning cycles there is an enormous saving on food-waste, costs, carbon dioxide and human labour and no collateral damages anymore due to leaks and bulging of the box container by rough handling."

Food-grade foil

In terms of the system's component parts, van Laarhoven explains that each Mega-Inliner® employs a high-tech food-grade foil that provides total barrier protection against oxygen and other gases thus "ensuring that all liquids arrive in perfect condition". To maintain food safety and prevent issues of cross-contamination, each Mega-Inliner® is deemed suitable for single use only. That said, each unit is made from 100 per cent recyclable plastics and can be easily disposed of via a customer's general plastics waste stream. ➔



“

With the Closed Loop project, we will achieve closed-loop recycling, recycling the Mega-Inliner® by collecting them in high volumes and recycling them to produce new film that will be delivered to us to make new Mega-Inliners®. This cooperation with various parties, including RKW, will lead to the goal of achieving a 90 per cent reduction in plastics waste by 2030

Sidon van Laarhoven, company founder, Mega-Inliner

”

Safety and convenience

While it is not possible to use a Mega-Inliner® with a conventional tank container, it is, nonetheless, possible to convert a conventional tank container in order to employ the Mega-Inliner® System. “We want to guarantee work safety and convenience. This is only possible when the manhole is positioned at the rear,” van Laarhoven reports. “In addition, the tank containers must be made smooth on the inside and a Mega-Inliner® Outlet must be used. With this conversion, the conventional tank is given a new life. From this moment, the tank is ‘new’ again and doesn’t wear out anymore. Even depreciated conventional tanks can be used again because there is no more deterioration on the inside of the tank due to cleaning.”

Whatever the provenance of the tank container in question, installing a Mega-Inliner® remains “a one-man job” that can be done within five minutes. “The bag weighs 15 kg. This is easy to lift and place horizontally in the tank. In the case of carbonated liquids, it is a matter of putting air pressure on the tank by simply connecting a DN40 air hose. When the hose is coupled with the product, the loading process is equal to conventional,” he says, explaining that the Mega-Inliner® will unroll and deploy automatically when the product is loaded. And while loading speed is determined by the customer, loading rates of 25,000 litres per hour are “more than feasible”.

“The Mega-Inliner® system is a perfect solution for moving big volumes of non-hazardous liquids without any prior cargo restrictions. This means that all non-hazardous liquids can be transported load after load without cleaning,” van Laarhoven notes. In addition to freeing the shipper from the time-consuming and costly need to clean units between transports, the Mega-Inliner® System can also “transcend business columns” in that different products can be moved in the same tank container once a fresh Mega-Inliner® has been installed. Consequently, a given week could see the same tank container handling shipments of beer, wine, milk and latex without any downtime or empty transports in between.

New opportunities

But as well as facilitating more efficient A-to-B transports, the Mega-Inliner® System has also enabled a growing number of companies to adopt more streamlined and therefore more cost-effective logistical operations. “For example,” he says, “we see breweries actively deploying a hub-and-spoke model whereby the Mega-Inliner® System is used to bring large volumes close to the market. From the hub location, the beer is then transported in cellar beer wagons to the pubs where tank beer installations are located. In this way, our customers can work faster and more effectively and reduce their carbon dioxide emissions considerably.”

“Besides the hub-and-spoke model, we also see the system being used a lot at large events because it is very simple in practice and the remaining beer can be easily recovered back into the brewery’s system. The Mega-Inliner is also perfectly suited for storage on wheels for



the moment you have to manage demand planning at your bottling facility,” van Laarhoven continues, anticipating strong market demand over the coming years.

Growth afoot

Indeed, 2024, he says, “is all about growth for us”, with the company currently doubling its fleet to meet demand. At the same time, a new deal with Torwesten Spedition means Mega-Inliner can now provide customers with a fully pan-European door-to-door transport service. What’s more, while beer has to date accounted for the bulk of product transported, the company sees significant potential in other market segments beyond the boundaries of the breweries.

“Beer is going everywhere, to countries and regions where other liquid products are produced,” van Laarhoven reasons. Thanks to the efficiencies borne of the Mega-Inliner® System, the movement of these products can now “be perfectly matched to the beer flows”, something that was previously impractical if not impossible to do. Indeed, with such big-name brewers and beverage firms as Mahou, AB InBev, Heineken, Asahi, Carlsberg and Coca-Cola adopting the Mega-Inliner® System, it is now possible for the company to offer an Uber-style transport service for a whole host of non-regulated liquids. “We are expanding into other products like chocolate, dairy, Not-From-Concentrate, fruit concentrates and many more,” he says. “As long as you can pump it, we can push it out. Even peanut butter.” ■

“

Besides the hub-and-spoke model, we also see the system being used a lot at large events because it is very simple in practice and the remaining beer can be easily recovered back into the brewery’s system. The Mega-Inliner is also perfectly suited for storage on wheels for the moment you have to manage demand planning at your bottling facility

Sidon van Laarhoven, company founder, Mega-Inliner

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'Understanding *tank containers*'

In a new series of articles for *Tankcontainer Magazine*, Leslie McCune, a tank container market expert, explores some of the key topics in the tank container industry. Although the articles may not be described as anything as grand as a 'learning tool' they may, hopefully, provide interesting background for those not routinely involved in the topics as part of their everyday role.

The four topics to be covered are: **T-CODES and Tank Types, Cash-On-Cash Yields, Leases and Utilisation.**

Each article will have a wealth of market and commercial insights, together with references to specific manufacturers, lessors, operators and supporting service providers. In this issue, we start with a simplified look at T-Codes and tank types.

T-CODES and Tank Types

Tank container T-codes (in regulatory terminology, UN Portable Tank Instructions) are the lingua franca of the tank container community. Every person involved in the industry - including investors - should have at least an awareness of their importance and meaning.

First, the basics. Tank containers are portable pressure vessels constructed to very specific and rigorously-defined standards. They have an excellent safety record and carry both hazardous and non-hazardous bulk liquids and, occasionally, bulk solids such as powders. They can be handled in the same way - and usually with the same equipment - as other intermodal equipment such as General Purpose dry freight box containers.

Globally, approximately **27 million tonnes** of bulk liquid chemicals, food and gases are moved in tank containers in deep sea markets, compared with an estimated 160 million tonnes of bulk liquid organic and inorganic products moved by sea in chemical parcel and product tankers. Tank containers fit within a tightly-specified carbon steel frame while the shell is usually manufactured from 316L stainless steel, carbon steel (SA612N or P460NL) or carbon fibre-reinforced polymer composites. A standard ISO tank container is 20' (6.058m) long, 8' (2.438m) wide and 8'6" (2.591m) high with a typical volume capacity of 14,000-26,000 litres. Many are lined with chemically-resistant material to resist the corrosive attack of products such as acids.

90% of the global fleet of **848,400 tank containers** is 20' with the most common alternatives being 40', 30' (in Europe) and DOT 'Intermodal 407' in North America.

Lower volume tank containers are used for small payloads, specialised situations (e.g. off-shore) or for high density products. Volumes are increasing - 26,000 litre tank containers have taken over from 25,000 litres as the current **state-of-the-art size** (although many operators and customers still like 25,000 litres units). 21,000-23,000 litre sizes have declined with few being manufactured in significant numbers and the re-sale market for these volumes is poor.

Tank containers may be insulated or covered with a sunshield and can be adapted to include numerous additional features, depending on cargo requirements. These include baffles (or 'surge plates'), linings, specialist valves, multi-compartments and heating or cooling systems.

Each feature opens up specific business opportunities for a tank container and can add to the range of products or volumes it can carry. However, these features also add cost - a heating system for a tank container has about 1 km of wiring and adds approximately \$14,500 to the end-2023 price of \$16,000 for a standard tank container (large purchasers achieved under \$15,000).

Baffles also add cost since they add up to 10% more stainless steel to the two tonnes required to manufacture a standard tank container. They reduce surge (sloshing) within the tank container and enable it to carry less than the minimum cargo specified by the International Maritime Dangerous Goods (IMDG) regulations i.e. 80% minimum degree of fill for liquid dangerous goods.

To prevent contamination, tank containers are usually cleaned after discharge according to well-defined procedures and last cargoes must be carefully scrutinised for compatibility. Some are dedicated to a particular product and need not be cleaned after discharge. ➔



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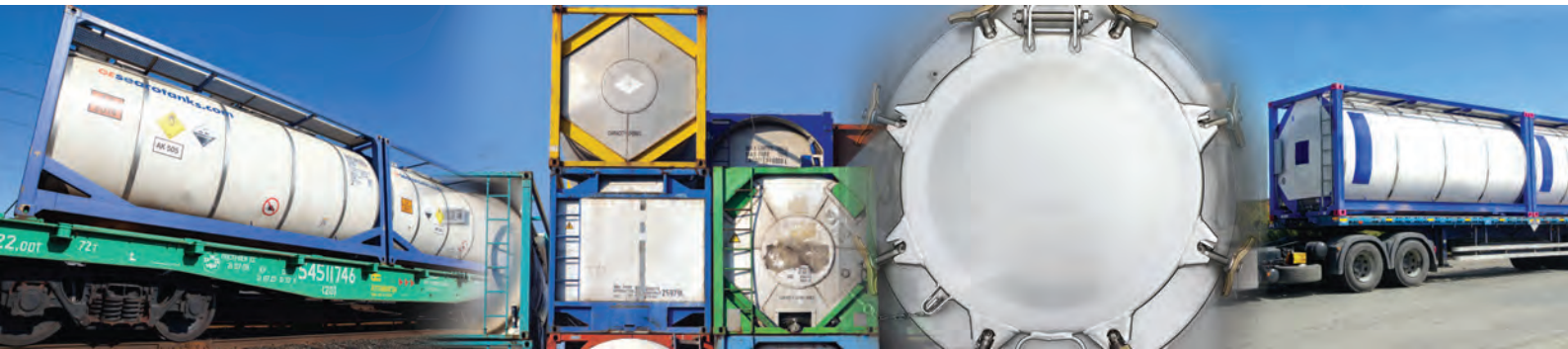
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Telematics and sensor technology can also be added with Hoyer commonly viewed as leading the way with the conversion of its entire tank container fleet to 'smart' capability and Peacock viewed as being a telematics innovator among lessors.

An estimated 6% of the global fleet of 848,400 tank containers has installed telematic capability with IMT being the dominant provider. Savvy and Nexxiott are among others providing telematic systems to monitor and manage intermodal transport assets.

T-codes

The correct choice of tank container is essential - it will primarily be a function of the volume, weight and characteristics of the bulk product to be carried, and the temperature range within which it must be transported.

The technical capability of tank containers to carry bulk liquids (or bulk solids such as powders) is defined by T-codes, which replaced the IMDG code classification in 2001. They specify the minimum test pressure, minimum shell thickness, pressure relief set-up and the bottom and top valve opening configurations.

40-50% of tank container cargoes are hazardous and referred to as Dangerous Goods ('Gefahrgut'). The Dangerous Goods List in the IMDG Code lays down basic principles for the transport of dangerous goods by sea and assigns a tank container T-code for each cargo.

The code lists over 800 product or product categories that can be moved in tank containers. Each T-code is technically specified for a large array of products e.g. T4 (292 products or product categories); T7 (249 products); T10 (48 products); T11 (112 products); T20 'special' (27 products) and T50 gas (65 products).

Codes only apply to Dangerous Goods cargoes and tank containers with lower value T-codes are generally used for carrying less hazardous - often high purity - products such as oils, wine and spirits. T1 is certified to carry light liquids, T4 transports non-hazardous edible and non-edible oils, T11 is certified to transport both hazardous and non-

hazardous chemicals while T14 is suitable for hazardous chemicals. Ocean shipping lines charge a premium for carrying tank containers with hazardous cargoes.

Unfortunately, and confusingly, **T-codes are not linear** - higher T-code tank containers are not necessarily suitable for transporting cargoes that are carried by lower value T-codes. For example, the TT Club cites the alternative tank containers for a T10 (used to carry some silicones) as T14, T19, T20 or T22 but excludes the use of T11, T12, T13, T15, T16, T17, T18 and T21.

The IMDG code assigns the minimum tank container requirement but higher specifications can be employed. T11, for example, is specified for highly volatile propylene oxide but an accepted alternative is a T50 gas tank container - which has a higher pressure rating than a T11 - with suitably modified valves to take care of pressure build-up.

More broadly, there are four tank container types with each having a range of T-codes i.e. 'standards' (T11, T14), 'specials' (T20, T22, T23), gas (T50) and cryogenic (T75).

'Standard' tank containers

Standard T11 tank containers are suitable for the vast majority of dangerous goods and are the industry's workhorse - they account for over **90% of the global fleet**.

The main tank types within the 'standard' category are insulated or uninsulated T11-T14s with the vast majority being T11. T14s are T11s with top discharge only and are used to carry TDI and monomeric MDI isocyanates (T11 is specified for *polymeric* MDI and polyols). Isocyanates are one of the top products moved in tank containers.

Standard tank container fittings are not always adequate for some products so customer-specific load/discharge fittings, remote air control, handrails, full walkways and additional valve connections may be required. This customises standard tank containers such that, unlike dry freight box containers which are expressly designed to be fungible commodities, they are **not universally interchangeable**. ➔



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When tank container manufacturers have capacity constraints, orders for standards are often prioritised because 'specials' slow down the production line.

'Semi-standards'

A subset group of 'standard' tank containers is referred to as 'semi-standards'. These are non-standard tank containers with a capacity of 27,000-73,000 litres. Semi-standards are available from both lessors and operators and include higher volume **swap body** tank containers. So-called 'swaps' may have light weight frames, extra height or extra width and may be uninsulated, baffled and/or electrically heated or cooled.

The use of semi-standard tank containers for the movement of lower value, non-hazardous and food cargoes has been made increasingly economically viable by the development of larger, lighter tank containers such as Van Hool's 35,500 litre High Volume Ultra-Light pressurised units (being deployed by Van den Bosch), the so-called 'super-volume' octahedral designs from Dalian CRRC in China, Trifleet's 35,000 litre lightweight frame swap bodies (the first lessor to offer lightweight frame swap bodies when introduced in 2015) and the mega-sized 73,000 litre B-TC BASF-class extra-large tank containers, launched in 2017 for internal site movements at Ludwigshafen, which can be stacked 6-high.

Composite swap body tank containers have been developed, weighing only 2,230 kg. These can be used for **food grade** products from Cargill, ADM, Diageo and Brown-Forman and are also suitable for some corrosive products that are incompatible with stainless steel. Bulk liquid food grade products account for approximately 6% of all tank container movements and require their own fleet and management procedures.

Semi-standards typically have a price premium of at least 20% over standard tank containers, which is reflected in a similar premium over the end-2023 per diem lease rates for standard T11 tank containers of \$6-6.50/day (although outlier lease extension rates were said to be below \$4/day which, although unsustainably low, avoids the \$1/day cost for the unutilised tank container to go into currently tight depot storage).

In a well-balanced leasing fleet, semi-standards make up 10% of a lessor's 'standard' tank containers.

Swap body

Swap body tank containers are typically 7.15-7.85m long, compared to 6.058m for a standard tank container, and are also wider (2.5-2.55m compared to 2.438m). They therefore exceed the standard universal UN maritime container dimensions but nevertheless have the same technical capability as standard tank types and have a volume capacity up to 36,000 litres, over a third more than state-of-the-art 26,000 litre tank containers. The capacity increase is achieved with only a 20% increase in tare weight.

Swap bodies were developed for use in road, rail, inland sea, riverway and short sea intermodal routes in Europe and are now widely used in the Middle East and in particular demand in China.

They are frequently used for internal site movements at less integrated petrochemical complexes but, importantly, are not stackable on deep sea cellular box container ships because of their dimensions.

'Specials'

The 'specials' tank container segment is made up of sturdier **T20** (8mm minimum shell thickness), **T22** (10mm minimum shell thickness) and, to a lesser extent, **T23** tank containers. Specials are used for highly hazardous products and some are multi-compartmented. They are tested to higher pressure ratings (10 bar instead of 6 bar for T11s) and feature internal shell linings, increased pressure resistance, temperature control systems, strengthened valves, manlids and special fittings.

T20, for example, is used for fuming sulphuric acid with T8 being used for less concentrated sulphuric acid solutions. Additional ASME U2 stamp pressure vessel standard is required for US regulations with the tanks typically constructed with multiple steam heating runs, 304-grade austenitic stainless steel cladding, horizontal or vertical baffles to prevent surge, and high duty valve configurations. Leased T20s and T22s usually have a capacity of 14,500-21,000 litres. ➔



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Chlorine-containing corrosive substances such as hydrochloric acid are not compatible with stainless steel and often require T20 or T22 'special' tank containers lined with chemically-resistant materials such as PTFE, polyethylene, rubber, phenolics, glass flake or epoxy. Fibre-Reinforced Plastic (FRP) may also be used to transport certain corrosive products.

The most frequent cargo for T20 and T22 specials is acids, one of the top product categories moved in tank containers (other top movers include MDI/TDI isocyanates, silicones, acrylic acid and acrylates, acrylonitrile, phosphoric acid and caustic).

T23 tank containers are very specialised and move organic peroxides and self-reactive, thermally unstable flammable substances.

Hoyer's titanium tank containers for highly corrosive molten MCA (monochloroacetic acid), developed and built by Van Hool and brought into service in 2021, highlights the technical innovation taking place in each tank type.

T1-T22 tank containers are used for dangerous liquid and solid products of Class 1 and Class 3 - 9 (except Class 7) and non-hazardous bulk liquid cargoes while T23 applies to Class 4.1 self-reactive substances and Class 5.2 organic peroxides. T50's are used for Class 2 non-refrigerated liquefied gases.

Changes to Dangerous Goods regulations have boosted demand for more specialised equipment. The change in the ADR/RID special provision in TP37 in January 2017 encouraged some lessors to acquire ASME U2 stamp T20 (8mm) and T22 (10mm) tank containers in the US. More broadly, the harmonisation of regulations governing the carriage of dangerous goods in South America's Mercosur trading bloc has made the wider use of tank containers much more straightforward in the region.

The types of tank container used in the major global seaborne trade lanes varies and depends on the characteristics of the products being carried. T11s are more commonly deployed on the Asia-North America **trans-Pacific** trade lane while the **trans-Atlantic** trade lane predominantly

relies on specials. This reflects Europe's naphtha-based chemical feedstock, from which a wider portfolio of downstream specialty chemicals is produced compared to the gas-based feedstocks of the US and Middle East.

New York is a major entry point into the US for laden tank containers with a major flow of empty equipment from New York to the US Gulf Coast chemical hot spots of Houston and Geismar. Few tank containers arrive in Los Angeles as there is little **US West Coast** specialty chemical production due to the **absence of feedstocks** for major chemical facilities and **tighter environmental restrictions**.

There is less competitive intensity in the specials segment as smaller lessors struggle to get bank finance for non-standard tank containers. Some larger lessors, such as Peacock, have been steadily increasing the share of their fleet dedicated to specials. In contrast, fast-growing CS Leasing has built up their T11 fleet which it leases more to tank container operators than chemical producers.

Specials tend to have longer term lease contracts and, due to their higher Original Equipment Cost, higher value per diems.

T50 gas tank containers

T50 gas tank containers are used for carrying non-refrigerated, pressurised liquefied gases and chemicals such as LPG, propane, butanes, anhydrous ammonia, dimethylamine, sulphur dioxide, chlorine, anhydrous hydrogen fluoride, refrigerants, propylene oxide and methyl chloride.

Unusually, they are manufactured using 11-13mm mild carbon steel. Due to their higher Original Equipment Cost, they are often refurbished at the end of their 20-year Useful Economic Life, not least because of the long waiting list for new builds. For operators, the Earnings Before Interest, Tax, Depreciation and Amortisation (**EBITDA**) of T50 gas tanks is typically 2-3% above the 5-10% achieved for standard tank containers.

Unlike stainless steel tank containers - whose price is driven by the cost of nickel - the nickel content of the ➔



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SA612M or P460NL carbon steel used for gas tank containers is only around 0.25-0.8%.

T75 Cryogenic tank containers

20' T75 cryogenic tanks - and occasionally 30' in Europe - are used for carrying refrigerated pressurised liquefied chemicals and industrial gases such as nitrogen, oxygen, argon, methane and carbon dioxide. 40' T75 cryogenic tank containers are usually the tank container of choice for Liquefied Natural Gas (LNG) movements, many of which are dedicated (i.e. need no cleaning after discharge).

At \$100,000, cryogenic tank containers are 5-6 times the price of a standard tank and need highly-specialised infrastructure, management and depots (such as CIMC-owned LFTS in Germany). Moving T75 cryogenic requires the utmost attention to transport safety and accident prevention.

The global move to gas, especially in Asia, is stimulating the building of smaller LNG networks and distribution centres. These support demand for T75 cryogenic tank containers despite them being a very expensive, inefficient and energy-intensive way of transporting LNG.

Per diem lease rates are high, reflecting the high purchase price and more rapid rate of technical obsolescence of cryogenic equipment.

At the far end of the scale are the \$1 million super-cryogenic tank containers for helium and hydrogen movements.

Composites

Increasing fleet diversity is a feature of the market. FRP composite tank containers, for example, are increasingly offered by operators and included in lease fleets for operational reasons - the 40% lower tare weight increases payloads by 1,500 kg, potentially reducing the number of movements by 5%. In addition, they claim to have improved thermal insulation and can be useful for products causing pitting corrosion in conventional tank containers. Manufacturers include CPT-owned Tankwell and OmniTANK.

Some operators, like Bertschi and NewPort (100,200 shipments and \$340 million revenue in pre-Covid 2019), have a more standardised fleet while others such as Hoyer have a fully diversified fleet to meet a wider variety of market needs. Market leading operator Stolt Tank Containers (142,522 movements in the 12 months to end November 2023) lies somewhere between the two in terms of fleet diversification.

Customers

Chemical producers are often the most desirable tank container customers - they have reliable and sizeable demand for on-site or distribution movements, a diversity of products and product flows, a willingness to outsource, and excellent credit worthiness. In addition, large multi-site global producers often offer attractive back haul opportunities within the group or have dedicated cargoes requiring no cleaning after discharge. Dow, for example, used 7,000 tank containers a month in 2023 for direct production into tank containers, interim storage, off-spec storage, temporary storage at customers and for distribution. Other major chemical producers using tank containers BASF, Infineum, SABIC, Eastman, Air Liquide and Covestro. ■

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Russian tank container sector *prepares for tough 2024*



The Russian tank container market continues to develop, despite the pressure from ongoing sanctions and the re-building of the majority of the industry's logistics routes.

Kirill Gabdrakhmanov, director of the commercial department of JSC Infotek-Baltika M, reported that due to the restrictions imposed by sanctions, the Russian tank container market is shrinking, albeit at a lower rate due.

According to Gabdrakhmanov, the liquid chemical cargo market fell by 7% in 2022 and, in 2023, the decline is expected to be about 4%, to 4.5 million tons. The two main products driving growth are sulphuric acid and fertilisers, which together make up 70% of the cargo base.

Asia not compensated for loss of West

Last year became tough for the industry as the exodus of the majority of Western operators and shippers led to a serious crisis within the sector. While the situation has generally stabilised in recent months, further prospects are cloudy.

The recent switch of the industry towards Asia has not fully allowed local players to compensate for the exodus from West because of the specifics of working in Asian markets and the generally lower profits available. As a rule, the revenue of most of the Russian tank container operators working in the Chinese, and other Asian, markets is significantly lower than those in the West.

Currency problems

The current operations in Asia are also also having to manage the serious problems posed by the international payments of Russian operators to their Chinese, and other, partners. An example of this is the recent announcement of the Zhejiang Chouzhou Commercial Bank - one of the most important Chinese banks for Russian tank container operators - to suspend transactions with the Russian operators. According to market players, a similar situation exists in Turkey. ➔





While the tank container fleet is relatively young, insufficient maintenance and servicing has had almost no effect on their capabilities but, over time, the existing problems will begin to grow rapidly, especially given the low quality of metal from Chinese manufacturers. In the near future, this may lead to colossal costs for the restoration of 'battered' tank containers

Nikolay Rybkov, from Obsluzhivaniy of Tank Containers



Western sanctions have also led to an almost complete suspension of fleet expansion by Russian tank container operators. Nikolay Rybkov, director of Obsluzhivaniy of Tank Containers, one of Russia's leading enterprises specialising on tank containers' servicing and technical maintenance, notes that if the average growth rate of Russia's tank container fleet had been 12-15% then, post-24 February 2022, there has been almost no growth. The country's fleet currently does not exceed 33,000-35,000 units. This is contrary to the initial expectations of fleet owners and shippers, which expected fleet growth up to 40,000-43,000 units at the beginning of 2024.

New Russian tank container manufacturing?

Demand for the Russian tank container fleet is still dominated by Chinese producers selling products which have increased in price several times in recent years. So far, local producers have only been able to compete with Chinese suppliers in certain niches, such as tank containers for cargoes requiring high temperature treatment and tank containers with special coatings for particularly aggressive substances. However, as prices for imported tank containers are rapidly increasing, more and more Russian operators will have to switch to domestic equipment which will involve having to establish their own tank container manufacturing.

As part of these plans, one of Russia's largest manufacturers of T75 LNG tank containers, is planning a launch in the Moscow region. The RUB 3 billion (\$33 million) investment will be implemented by the local CRIO-LNG company.

This has been recently confirmed by Elena Zinovieva, the Minister of Investment, Industry and Science of the Moscow region. According to Zinovieva, the new plant will be established in the Kashira Special Economic Zone and will create about 100 jobs (capacity is not disclosed).

M&R is poor

According to experts of the Russian *Delovoy Kvartal* business paper, a major problem is the currently poor

Maintenance & Repair (M&R) of the existing tank container fleet in Russia, which has progressively deteriorated since 24 February 2022.

Nikolay Rybkov from Obsluzhivaniy of Tank Containers recently said that "Given a tank container is a rather complex piece of equipment and requires qualified and periodic maintenance and monitoring, sanctions mean that small-to-medium sized operators do not have sufficient competencies and resources to provide quality servicing, while large companies try to save as much as possible on quality maintenance and repairs".

Low quality metal from China

"While the tank container fleet is relatively young, insufficient maintenance and servicing has had almost no effect on their capabilities but, over time, the existing problems will begin to grow rapidly, especially given the low quality of metal from Chinese manufacturers. In the near future, this may lead to colossal costs for the restoration of 'battered' tank containers".

Prior to 24 February 2022 one of the main drivers for the growth of the Russian tank container sector was the gradual decommissioning of specialised chemical railway wagons and their active replacement by tank containers. According to official statistics from the Russian Ministry of Industry and Trade, the growth in loading of chemical cargoes in tank containers from 2015 to 2022 was equivalent to over 30%, compared to only 7% for railway wagons. However, since the beginning of 2023, there has been little growth.

According to interviewed analysts, another problem of the sector is related to the lack of proper standardisation and regulation, including in the servicing sector.

Staff shortages

Finally, the ever-deepening shortage of personnel is creating another serious problem for the sector. After the announcement of mobilisation in Russia in autumn 2022 the industry has been faced with a record shortage of ➔

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Spectransgarant, Largest fleet of ISO Tanks in Russia

both high- and low-skilled works, with the current situation continuing to deteriorate.

Infrastructure challenges

There are also serious problems with the terminal, transport and depot infrastructure. Most of these Soviet-era facilities no longer meet modern requirements but the construction of new infrastructure requires significant investment.

New logistics hub

There is a possibility that part of the infrastructure problem could be solved by the planned building of a large-scale logistics hub, known as Deng Xiaping, in the Russian Tatarstan Republic, focused on tank container transportation on the Asia-Russian trade lane.

The new logistics complex will have the capacity for 100,000 containers per year. A significant part of this volume will be accounted for by tank containers. In addition to railway infrastructure, the new complex will have major cleaning and steaming stations. The investment is estimated to be RUB 56 billion rubles (\$550 million) making it one of the largest complexes of its kind in Russia. The project will be implemented by the administration of the Alabuga Special Economic Zone.

According to an official spokesman of the Russian Ministry of Transport, the infrastructure at the western border crossings in St. Petersburg and Novorossiysk are generally developed but, in recent years, Russia has faced an acute problem with the lack of modern infrastructure in its eastern region.

Over the past year, the share of domestic Russian transportation in tank containers increased by 6%. Part of the export flows were redirected to Turkey. In general, turnover with countries that have imposed sanctions against

the Russian Federation decreased to 0.5 million tons.

Volumes increase for some operators

Despite all the challenges, some Russian companies have managed to achieve generally good results in 2023. An example is Spetstransgarant (STG, part of the SG-trans group), one of Russia's leading tank container operators, which increased its transportation volumes to 1.3 million tons in 2023, 8% higher year-on-year. According to the company, the biggest growth was in liquid nitrogen fertilisers, styrene and sulphuric acid, products that that shown the best dynamics in the Russia in tank container market.

In the case of Spetstransgarant, shipments of liquid nitrogen fertilisers increased by more than 1.7 times, or 67,500 tons, in 2023.

New export routes

According to Pavel Moskalenko, STG's General Director, the company opened new export routes through the ports of the North Caucasus and St. Petersburg. The STG tank container fleet increased to 7,500 units (8.9%) in 2023, and included the purchase of 440 tank containers for the transportation of sulphuric acid.

The same is true for Vostochnaya Magistral LLC, another Russian tank container operator. Daria Pronina, a leading manager in the multimodal logistics department of the company, reported in an interview with the Russian *Tank Container World* business magazine that growth was achieved on imports with most of the import traffic being acids, chlorides, esters and phenylamines. The Moscow region, St. Petersburg and Primorsky Krai were the main destinations.

Daria Pronina also noted that the range of exported goods is much smaller and are mainly fertilisers and organic chemicals. ■

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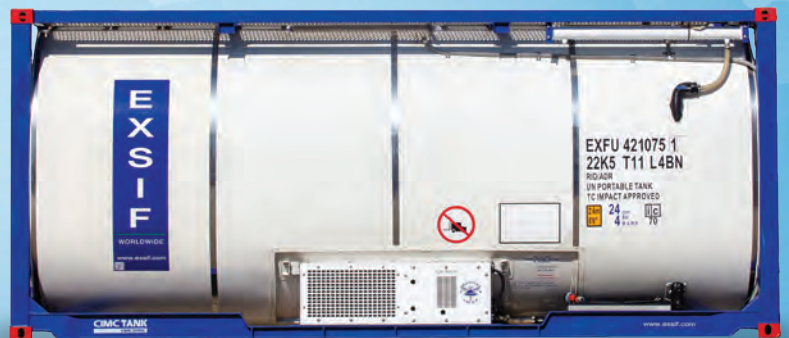
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