

REVIEW OF THE YEAR

Market dynamics, trends and corporate activity in the tank container sector in 2019

P21

SHIPPER

BASF's integrated logistics concept includes modal shift, automation and digitalisation

P26

GLOBAL FLEET SURVEY

ITCO's 2019 global survey reveals a record fleet size, but market weakness

P28

OPERATOR

Stolt-Nielsen's corporate structure offers strategic options for its businesses

P33

Tankcontainer MAGAZINE

Volume 7 | Issue 1 | March 2020



Aida Kaeser,
co-founder and CEO
of SAVVY Telematic
Systems AG, interviewed

SAFE. DURABLE. DEPENDABLE.

Manlid Assemblies



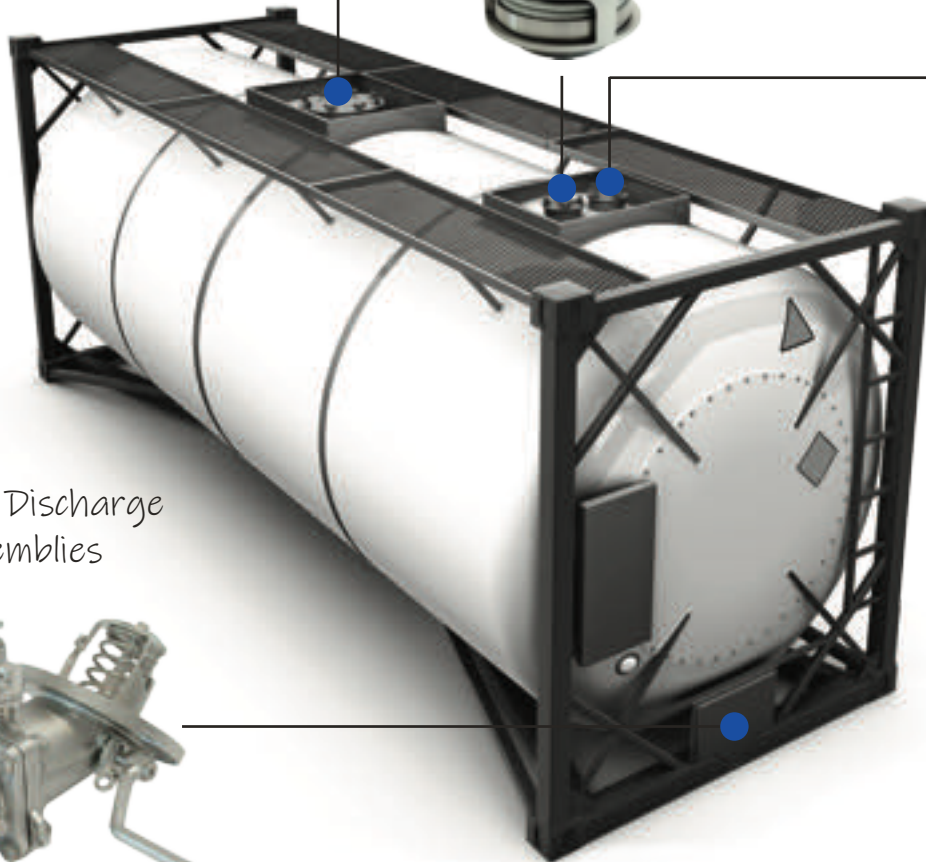
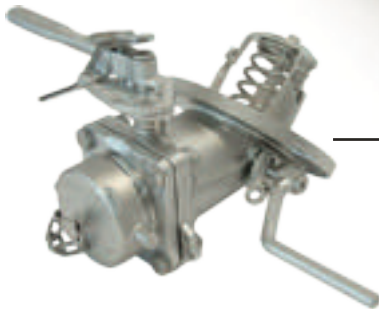
Relief Valves



Airline Valves



Bottom Discharge
Assemblies



VALVES AND
ANCILLARIES
Fort Vale will
always supply
M seals and

Fort Vale are the market leader in the design and manufacture of manways, valves and ancillaries for tank containers. We have a huge range of products to suit all liquid tank classifications, from food to high-hazardous chemicals, and a dedicated range of equipment for T50 compressed liquefied gas tanks.

We have the flexibility to help you with your bespoke design requirements as well as being able to manufacture large batch quantities of tank equipment sets.

With over 50 years in business, our equipment has earned an unrivalled reputation for safety, quality and reliability.

For more information contact our Sales team on +441282 687120 or visit www.fortvale.com

FORT VALE.
FOLLOW THE LEADER.



NEWS

5-17



Van den Bosch is strengthening its position in Northern Europe by taking over the Swedish transport company Willis Larsson Transport AB. This acquisition results in a further expansion of the logistic activities in the dry bulk segment. The family owned company Willis Larsson Transport AB was founded in Lidköping, Sweden, in 1961.

Front Cover Interview

Tankcontainer Magazine interviews Aida Kaeser, co-founder and CEO of SAVVY Telematic Systems AG, based in Schaffhausen, Switzerland



18

Publisher
Duvel Media
www.tankcontainermedia.com

Editor
Leslie McCune
leslie@tankcontainermedia.com

Advertising
Ed Andrews
ed@tankcontainermedia.com

Production Editor
David Badger
david@tankcontainermedia.com

ginko design
hellostudio@ginkodesign.co.uk

www.tankcontainermedia.com

Tank Container Magazine is published by Duvel Media. Copyright 2020 Duvel Media. All rights reserved. Any reproduction without permission is prohibited.

Registered office
53 Grove Hill, London E18 2JB, UK

SHIPPER



BASF, the world's second-largest chemicals producer, has an 'integrated logistics concept' that could have far-reaching implications for the tank container sector

25

GLOBAL FLEET SURVEY



ITCO's latest global fleet survey highlights a record fleet size, but caution and concern are the new watchwords

28

EQUIPMENT



Like all capital equipment, a tank container must be cleaned. James Graham explores a sector that has grown up for this single purpose

29

OPERATOR



Were Stolt Tankers to be spun off, taking most of Stolt-Nielsen's profit with it, Stolt Tank Containers may have some attractive new opportunities

33

REGIONAL FOCUS



The Ukrainian tank container sector is steadily developing, thanks to the recovery of the national economy and growing demand

35

OPERATOR



Austria-based Gartner Group has opted to install the B200 Mouvex screw compressor of Wiegel Transport Equipment on all its silo lorries

38

REVIEW OF 2019

Tank container market expert Leslie McCune describes 2019 as 'not great' for the industry and expects 2020 to be worse

21

EFFICIENT GREEN INTELLIGENT

Research & Development
Efficient production
Depot Network & Service

We Offer
Full Life Cycle Service

**INVITATION
2020**

The 5th **CIMC TANK
SYMPOSIUM**

GLOBAL PARTNER
IN TANK CONTAINER INDUSTRY

From **06.18**

To **06.19**

Welcome to **NANTONG
CHINA**



CIMC ENRIC

China International Marine Containers (Group) Ltd.

CIMC Enric Holdings Limited

CIMC R&D Centre, NO.2 Gangwan Avenue, Shekou Industrial Zone
Shenzhen, Guangzhou, P.R.C.(518067)
Tel: 86-755-26691130
Fax: 86-755-26862790
<http://www.cimc.com>
E-mail: tanks@cimc.com

CIMC TANK
CIMC ENRIC

Nantong CIMC Tank Equipment CO., Ltd.

NO.159 Chenggang Road, Nantong, Jiangsu, China 226003
Tel: 86-513-85066022(Sales), 86-513-85066888(Switchboard)
Fax: 86-513-85565155
<http://www.cimctank.com>
E-mail: tanks@cimc.com

CIMC Enric Tank Container Sales Europe B.V.

Middenweg 6 (Harbour nr.397-399) 4782 PM Moerdijk
Tel: +31 880 030 860
<http://www.cimctankcontainers.nl>
E-mail: info@cimctankcontainers.nl

BURG SERVICE
CIMC ENRIC

**Service Depot in Europe BURG
Service B.V.**

Middenweg 6,4782 PM, Moerdijk The Netherlands
Tel: +31 88 00 30 800
Fax: +31 88 00 30 882
<http://www.burgservice.nl>
E-mail: info@burgservice.nl



Who cares about 2019?

This issue of *Tankcontainer Magazine* focuses on Europe and includes the much-anticipated 'Review of the Year 2019'. With the world in a state of crisis, it's tempting to say: 'Who cares about the tank container market in 2019?'. Although our personal and corporate behaviour has been radically transformed in ways we never imagined, it is still valuable to reflect back on how sectors and companies performed. Those that did reasonably well, thanks to strong customer relationships, products and/or services are more likely to weather the current dire market. Those that struggled last year, may not see the end of this year.

But let's not try to make impossible judgements about this year before summarising last year. The global tank container market continued its very strong performance into the first half of 2019 but weakened in the second half, when uncertainty caused by faltering economic growth and more intense competition led to a sales slowdown and weak margins for many.

The weakness in growth in 2019 will, however, be insignificant compared to the inevitable decline in tank container activity in 2020, after the full impact of the current black swan event of the COVID-19 coronavirus emergency is known.

Worryingly for those in the chemical supply chain, more than 75% of chemical company CEOs viewed cost-cutting as their primary activity for driving profitability.

Depressed margins for chemical shippers, combined with large tank container demurrage bills, caused several to rethink their operator vs lease model.

US/China tariff tensions disrupted investment strategies and took their toll on chemical trade flows between the two blocs. China's new mega-refineries, and their associated petrochemical plants, are part of its drive for self-sufficiency. These, as well as new petrochemical capacity in South-east Asia, changed some tank container flows into China in 2019.

Transatlantic tank container volumes were broadly unaffected by tariff tensions.

According to ITCO's annual tank container fleet survey, the global fleet on 1 January 2020 reached a new record of 652,350 units, an increase of almost 8% on the previous year. Despite the record fleet size, caution and concern were the watchwords in the industry.

Unsurprisingly, tank container manufacturing in China

continued to dominate the industry in 2019, although global production falling by nearly 9% to 54,650 units.

As expected, the largest production falls came at CIMC. Tank container manufacturers in China prioritised volume over value, according to one Chinese manufacturer, not least because labour-intensive enterprises like tank container manufacturing receive favourable funding. In contrast, Welfit-Oddy in South Africa prioritise value over volume and has increased the proportion of specialised tank containers being manufactured while investing in production process efficiencies. They were the only Top 4 manufacturer to increase production.

Lessors continued to broaden their offering by including specialist equipment like swap-bodies, T50 gas tanks, T70 LNG cryogenic tanks, specials and composites.

The most significant corporate action in 2019 was HNA removing the 'For sale' sign above Seaco, the world's second tank container largest lessor. At \$89 billion, HNA had China's largest corporate pile but failed to achieve its price objective for Seaco. Interest was said to have come from China Cinda, Apollo, SMFG and other private equity firms.

Eurotainer, part of SNCF Logistics' Ermewa Group, consolidated its position by acquiring Raffles Lease and its fleet of more than 14,000 tank containers. The Raffles brand will be retained.

More global infrastructure funds and private equity groups were attracted by the defensive qualities of the tank container market, with cash-on-cash and premium to net book value being key financial metrics. However, the tank container market lost some of its attractiveness last year as demand stalled, shipments weakened and cost pressures increased.

The spending spree on low-priced new builds, particularly by lessors, waned as asset purchasing became less opportunistic. Over-buying, especially by lessors, resulted in large stocks - up to 10,000 units - in the yards of tank container manufacturers.

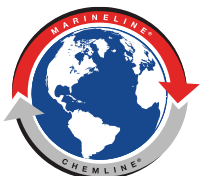
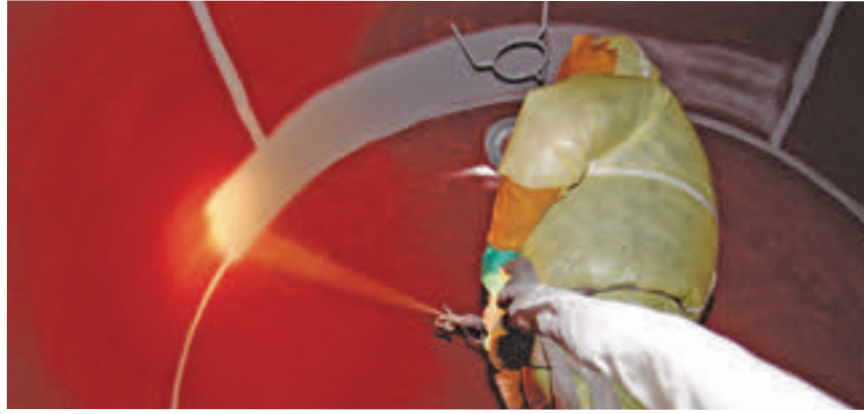
All in all, 2019 wasn't a great year for the tank container industry and, due to the global coronavirus pandemic, 2020 will definitely be worse. It's just a question of how much worse and who the corporate casualties will be. However, the industry should take heart that several key secular trends support the medium-to-long term growth prospects for the tank container sector.

Leslie McCune, Editor

ChemLINE®

Superior Tank Linings for AGGRESSIVE CHEMICALS

- ✓ Provides resistance to over 5,000 chemicals - acids, alkalis, solvents
- ✓ High solids content (85%)
- ✓ Extremely low VOCs
- ✓ Versatility to change cargoes after cleaning and decontamination
- ✓ Professional Global Partner Applicators



ADVANCED
POLYMER COATINGS

Advanced Polymer Coatings
Avon, Ohio 44011 U.S.A.
+1 440-434-3069 Phone
www.adv-polymer.com/tc



Scan to Learn More

Van den Bosch acquires Swedish Willis Larsson Transport

Van den Bosch is strengthening its position in Northern Europe by taking over the Swedish transport company Willis Larsson Transport AB.

This acquisition results in a further expansion of the logistic activities in the dry bulk segment.

The family owned company Willis Larsson Transport AB was founded in Lidköping, Sweden, in 1961.

The company has acquired a strong position in the intermodal transport of dry bulk goods.

With its own modern fleet of trucks and 40FT pressurised containers, Willis Larsson serves Sweden, Norway, Denmark, Poland, Benelux, Germany, Austria and the United Kingdom.

The acquisition will result in a further growth of the dry bulk division of Van den Bosch, which will grow into more than 1400 modern silo trailers and silo containers.

Rico Daandels, CEO of Van den Bosch, said: "The acquisition of Willis Larsson represents the next step in our international growth strategy.

"As a logistics coordinator, Van den Bosch wants to become the European top player in bulk logistics. With the use of data and the right equipment, we can provide intermodal solutions for our customers – both in the field of dry and liquid bulk transport for the food and chemical industry.

"By taking over Willis Larsson, we will strengthen our logistic network in the Nordics and expand our leading position in the transport with pressurised containers.

"I'm pleased that CEO Sverker



Sverker Larsson, CEO of Willis Larsson Transport, and Rico Daandels, CEO of Van den Bosch sign the agreement

Larsson and his team will continue to be part of the company after the takeover and add their experience to the Van den Bosch organisation."

Sverker Larsson, CEO of Willis Larsson Transport, said: "Joining Van den Bosch connects us with the extensive European transport network and gives us access to the knowledge and experience of modern data systems.

"We have noticed that digital solutions have become increasingly important for our clients. The strong reputation of Van den Bosch ensures that we can continue to be a high quality partner in the future, both to our

employees and our customers.

"Moreover, Van den Bosch will also bring its expertise in the field of liquid bulk transport to the Nordics, which will result in a further extension of our activities."

Van den Bosch is an international logistic services provider specialised in the transport of liquid and dry bulk products for the food and chemical industry.

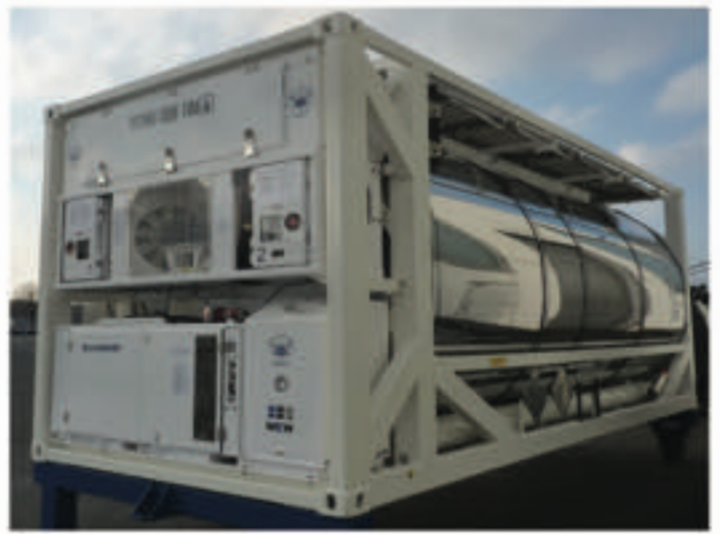
Using both road and intermodal transport, Van den Bosch serves the global market.

Van den Bosch has 10 offices in Europe, Africa and the Middle East.

The head office is located in Erp, the Netherlands.



Refrigeration Unit
for Tank Containers



Dual Refrigeration System
for Tank Containers



Refrigeration Unit for Tank Containers (ATEX-certified model available)

KLINGE CORP OFFERS TRANSPORT SOLUTIONS FOR YOUR EVERY NEED

Other equipment includes:

- Dual Refrigerated Container & Back-up Generator Set for Hazardous Goods
- Offshore Refrigerated Container (complies with ATEX Directive)
- Explosion-Proof Refrigerated Container for Operation in Hazardous Zone I & 2
- Satellite Monitoring & Tracking of temperature, alarms, and running condition



KLINGE CORPORATION

inquiry@klingecorp.com | www.klingecorp.com



USA: +17178404500

DK: +4536964310

VTG introduces digital platform for more transparency in rail freight transportation

VTG is taking rail digitalization to a whole new level – the Hamburg company is expanding its range of digital services and will be making it available in future on a platform under the name traigo.

“With traigo, we are creating a digital infrastructure for rail freight transportation and, on this basis, offering a service that is unique in the industry,” says Dr Heiko Fischer, Chairman of VTG AG.

“traigo will become our customers’ central interface for digital fleet management in the future. For us as a company, traigo represents a systematic continuation of the digitalization path that we have been pursuing for several years. We are convinced that rail freight transportation can only be a competitive option in the long term if we exploit the potential of digitalization to make the entire rail system more transparent, more efficient and easier for customers.”

traigo offers customers a range of digital products. Customers will be able to access contract data and retrieve information about the wagons they have hired in real time. In future, there will be a digital correspondent for the complete analog service portfolio of today – including the online booking of wagons and a fully digital maintenance management.

In addition, VTG is taking advantage of the possibilities digitalization presents and, through traigo, is offering completely new services, such as forecasted arrival times for rail freight consignments. Based on the analysis of millions of anonymized wagon movements, traigo’s transport management tool boasts the ability to predict when a freight train will reach its destination.



“There’s never been anything like this in the rail industry before,” says Sven Wellbrock, who is responsible for wagon hire and rail logistics in Europe on the VTG AG Executive Board. “We map our entire hire business digitally and will also be able to offer completely new services in future based on digital data and smart models. This will make rail freight transport significantly more attractive.” Right from the start, various functions will be available on the traigo platform, and the range of services will be expanded continuously.

“The name ‘traigo’ doesn’t just make you think of the words ‘train’ and ‘go’, thus playing on how dynamic logistics is. Moreover, ‘traigo’ is the Spanish for ‘I carry’ – and this is precisely what we want people to associate with the new platform.

“We do know, though, that one

player alone can’t change a complex system such as ours by themselves. This is why we are inviting both our own customers and the entire industry to collaborate with us. Our platform and the experiences we have made are open to all those who want to contribute to digital, sustainable rail freight transportation – so, all who want to bring something to the table themselves,” says Dr Niko Davids, VTG AG’s Chief Digital Officer. That means third parties will be able to offer digital products to their customers via traigo. The data service includes several functions, such as wagon tracking, information on transport incidents and load statuses, which will also be available via the traigo platform.

The platform’s official launch is planned for the second quarter of 2020. However, interested customers already have the opportunity for a sneak preview to test the platform and all currently available functions with their own data free of charge. The feedback from this test phase will be incorporated into the platform’s continued development.

Moose Tank Parts growing rapidly

Moose Tank Parts is growing rapidly. A spokesman for the firm said: “Due to the supply and demand we moved to a bigger facility. We are a one-stop shop supplier in parts for tank containers, tank trucks, box containers and the Chemical plant industry.

“We also offer customized products, such as welding, milling & testing of products. With over 20 years of experience we know



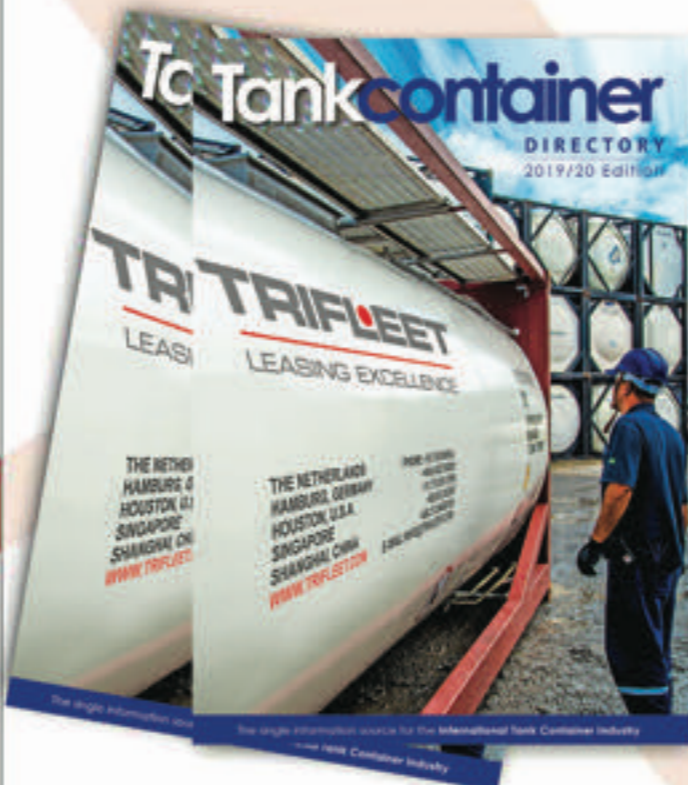
what customers need and therefore we can also give advice.

We would like to thank all our customers for their support.”

Tankcontainer Directory

2019/20 Edition

Full of updated and fresh information with addresses and contact details, it is the **must-have annual for the tank container market**



The four editorial sections are:

- Tank Container Operators
- Tank Container Lessors
- Tank Container Manufacturers
- Equipment & Service Providers

Each section has a geographic listing at the front followed by a comprehensive alphabetical listing.

Port of Antwerp is taking yet another important step in the transition to a sustainable, lower emissions port.

Eight leading players in the port area – Air Liquide, BASF, Borealis, INEOS, ExxonMobil, Fluxys, Port of Antwerp and Total – have signed a collaboration agreement as a first move towards the possible development of Carbon Capture, Utilisation & Storage (CCUS) infrastructure. The consortium will carry out a joint study into the economic and technical feasibility of such facilities. CCUS applications can make an important contribution towards achieving climate goals.

Facing up to climate change and the role played by CO₂ emissions demands more innovative solutions. As the location of the largest energy & chemicals cluster in Europe, Port of Antwerp is the ideal location to foster collaboration between companies and take innovative steps towards CO₂ reduction. To put this into practice eight leading players in the port area have joined forces. Air Liquide, BASF, Borealis, INEOS, ExxonMobil, Fluxys, Port of Antwerp and Total have signed a collaboration agreement to investigate the feasibility of facilities for Carbon Capture, Utilisation & Storage (CCUS) in the port. These facilities would be of the "open access" type, available to the entire industrial community in the port.

Carbon Capture & Storage (CCS) and the use of CO₂ as a raw material for various industrial applications (Carbon Capture & Utilisation, or CCU) are seen as important avenues in the transition to a lower emissions port. The partners in

Port of Antwerp aims to further reduce CO₂ emissions



the project believe that both applications can have a significant impact in the longer term and can make a useful contribution to achieving the energy and climate objectives at Flemish, Belgian and European level. If the proposals turn out to be technically and economically feasible, then development of such facilities can lead to reductions in CO₂ emissions in the run-up to 2030.

In the first phase the partners will carry out detailed studies of the technical and economic feasibility of CO₂ facilities to support CCUS. This analysis is expected to take around one year to complete: Financial support from Flanders, the Belgian federal government and the EU is essential for further successful implementation of the project. One important part of this is preparation of subsidy applications.

International collaboration
The feasibility study will also investigate the possibilities for CO₂ storage. Belgium does not

have suitable geological formations for storing CO₂ underground, and so international collaboration will be necessary. To support this international collaboration, Port of Antwerp and a number of other partners submitted two applications to the European Commission earlier this year for recognition as 'Projects of Common Interest'. Both projects offer possibilities for investigating the development of cross-border CO₂ transport infrastructure, linking up respectively with Rotterdam (CO₂ TransPorts project) and Norway (Northern Lights project). A decision on these applications is expected by the end of this year. In the context of the feasibility study the results of these applications will be taken into account and contacts with other CO₂ storage initiatives will be sought so that robust concepts can be developed for the CO₂-intensive companies in the region.

Professional Manufacturer of **TANK CONTAINERS**

- 20' ISO Tank T1-T23
- Swap Tank 28-38 m³
- Single or Multi-compartment tank
- Baffle tank
- Electrical/glycol heated tank
- Reefer tank
- Food grade tank
- T50 gas tank (U and U2 stamp)
- Super insulated tank
- IBC tank (pressurized and non-pressurized)
- Offshore Tank to DNV2.7-1/EN12079
- Lining tank (PE, Rubber, Saekaphen, FRP, Chemline, PTFE, etc.)
- AHF tank
- Liquid sodium tank
- 29.5/30KL square shape tank



YOUR BEST PARTNER IN LOGISTICS

Add: 3888 Jintong Highway, Xingren, Tongzhou, Nantong, Jiangsu, China
Tel: +86-513-81601166 Fax: +86-513-86221280 ext. 8018 Email: info@nttank.com

NANTONG TANK CONTAINER CO., LTD. [Http://www.nttank.com](http://www.nttank.com)



Rohe uses ConFoot legs for LNG tank container handling

Rohe Solutions provides LNG for the needs of industry in the township of Lieksa. LNG is brought to the plant in separate tank containers on trailers and the containers are placed on ConFoot container legs to wait for being used. There are two 45 cubic meter tanks present at the same time while a third tank is being filled.

The use of ConFoot container legs requires a very low level of investment, and with the container legs the LNG tank containers operate also as a logistical solution.

Mika Simola, Technical Manager of Rohe Solutions: 'The starting point of the solution planning was to eliminate all separate container handling methods – e.g. reach stackers – from the container unloading area.

These would have been expensive investments, and they would have required a large operational area compared with the container handling method chosen.

Working in the LNG container unloading area is now very flexible and can take place without any intermediate steps when a new container is brought to the area.



'We have used ConFoot container legs for over a year now, and they have proven to be an effective and cost-efficient solution.'

The new ConFoot CF model with a capacity of 34 tons was introduced in the summer of 2019, offering extended range of use for tank container operators in particular.

Sami Seppänen, Global Account Manager of ConFoot Ltd: 'We are very happy with the successful

adoption of ConFoot container legs into the Rohe operations and are looking forward to years of continued collaboration.

The feedback from companies working with tank containers pinpointed the fact the previous 30 ton maximum capacity of the CF set wasn't always enough, and this led directly to the development of the 34 ton model which has gotten a great response from the said industry.'

Den Hartogh opens Antwerp Logistics Service Centre

Den Hartogh has opened a logistics cluster service in the port of Antwerp, which is said is "a result of the success in Rotterdam".

The new Logistics Service Centre 212 (LSC 212) is designed to help its customer's supply chain, be it by road, rail or barge.

The services it offers with at the new cluster service include:

Drop/swap, load and unload services for customers in the cluster; Shunting services of tank containers in the cluster

Container storage services (non ADR)

Intermediate parking

Tank heating and

Equipment check.

It said these services are supported by the strategic positioning of the centre, as it is positioned at the right bank and so is in close range for customers, suppliers, rail terminals and tank storage terminals.

Den Hartogh said in a statement: "All drivers working within this concept are familiar with the region and the area they work in. In many cases, they also live nearby. This not only creates efficiency advantages, it also helps improve local safety performance.

"The international drivers arriving with long-distance cargo can drop off their load at LSC 212, so that it can be swapped with a local driver who knows the area and is familiar with all local safety protocols."

www.savvy-telematics.com

KEEP TRACK OF YOUR ASSETS

A STRATEGIC TREND-SETTING PARTNERSHIP



CIMC TANK
CIMC ENRIC



TANKMILES HEATING SYSTEM

Eurotainer celebrates 50-year anniversary



In 1969 the brand of Eurotainer was first established with the goal of becoming the worldwide leader in tank container leasing.

The company has had many achievements over the years and many milestones:

- 1979: Opening of the USA office in the World Trade Center, New York City
- 1984: 15 years in business and a fleet of 3000 tank containers
- 1990: Expansion into the Asia Pacific market with the opening of the office in Singapore
- 1994: Eurotainer celebrates 25 years of success
- 2001: Powered by the global growth of the tank container industry the Eurotainer fleet reaches 19000 tanks
- 2004: Representative office opened in Shanghai, China; followed years later by an office in Tianjin
- 2006: Office opened in St. Petersburg, Russia to serve our clients in Russia and the Baltic States
- 2010: Office opened in Brisbane, Australia to expand our business in Australia, New Zealand & the Pacific Islands
- 2013: Office opened in Sao Paulo, Brazil to

provide our South American clients a higher level of customer service

- 2016: Continued market demand and growth drives the Eurotainer fleet to 30000 tank containers
- 2018: Acquisition of Taylor Minster Leasing
- 2019: Fifty years in business with a fleet of 48000 tank containers and small portable tanks serving nearly one thousand clients through our team of professionals in France, Netherlands, Germany, Russia, USA, Brazil, China, Singapore, Japan and Australia.

The company said: "Over the years there have been expanded services offered, technology advances, and changes in colors and logos (see above).

"The one constant has been business success, which would not have been possible without our loyal customers in eighty (80) different countries around the globe.

"Fifty (50) years after the founding of the company the Eurotainer team recently met to celebrate five decades of success and to look forward to the next fifty years."






**Chemical[®]
express**
Bulk Liquid Transport

CHOOSE YOUR TRANSPORT WAY.

CHEMICAL EXPRESS: A KEY PLAYER IN EUROPE FOR CHEMICALS BULK TRANSPORT

With a new organisation but with consolidated experience, Chemical Express transports your chemicals, both hazardous and non-hazardous all over Europe.

Wherever you have to deliver your products, however you prefer (by rail, road or sea), thanks to our modern and flexible fleet of 1600 tank-containers, 150 road tankers, 110 trucks and 450 container chassis, our specialist team will find the best way to deliver your chemicals to your customers safely, on-time and in an environmentally friendly way.

Certified by:



Please send your enquires to:
commerciale@chemicalexpress.it
info@chemicalexpress.it
www.chemicalexpress.it

Via Luigi Volpicella, 194
80147 Napoli - Italia
0039 081 2439711

Via delle Breccie, 127
80147 Napoli - Italia
0039 081 2439730

Strada Regionale, 11
28069 Trecate - Italia
0039 346 3133138

Suttons showcases safety and innovation

With around 50 sites worldwide, representative offices in 115 countries and partners around the world: the HOYER Group has access to a steadily growing global network.

Joint ventures with strong partners are another key component in the consistent expansion strategy of the Hamburg based logistics specialist.

Together with Dupré Logistics, HOYER consolidates its market position on the North American continent.

The HOYER Group holds 49 per cent of the shares in the joint venture under the name HOYER Bulk LLC, while the US-American transport company Dupré owns 51 per cent.

The company is headquartered in Houston, Texas.

As family-run businesses, the HOYER Group and Dupré place great value on reliability, safety as well as security and excellent know-how in handling dangerous goods. Both companies are among the market leaders in their operational fields.

The HOYER Group operates road transport in Europe and has at its



disposal a sophisticated international network for intermodal traffic linked to its own business area for overseas traffic. Dupré specialises in transport operations within the USA.

Together, the HOYER Bulk LLC joint venture combines the specialisations of the two companies, thus enabling seamless order processing and high transparency. Initial transport movements in the USA will take place from 15 January 2020 onwards.

Ortwin Nast, Chief Executive Officer of the HOYER Group, says: "Partnership with Dupré is a logical expansion of our

internationally aligned overseas activities by providing transport services in the USA. We thereby enlarge our portfolio of services and also meet the growing demand for transport capacities in the US-American market."

Mike Weindel, President of Dupré Logistics adds: "It is important to us to know we have at our side a partner that also represents customised logistics and technology solutions.

"We also give the highest priority to transparency and dependability in our operations.

"HOYER has the same understanding, as we immediately noticed."

CS Leasing appoints John Lonnergan as Area Sales Director

CS Leasing, provider of a wide range of intermodal lease and equipment solutions to global operators, logistics providers and shippers, has announced the appointment of John Lonnergan as Area Sales Director.

This latest addition to the global sales team comes as the company continues to grow its customer base with a global fleet now of over 15,000 ISO tanks and an additional 20,000 dry freight special containers.

Based in Miami, John brings with him an extensive sales and



operating track record with exceptional customer service and technical expertise, including a

wide range of tanks and specialised containers.

"John's outstanding market knowledge and technical, operational and customer service expertise are all keys to delivering on our client-centered approach.

"Having previously known John for many years, we know he has the same approach to forming long term relationships with both customers and vendors as the rest of the CS Leasing team." said Tim May, Chief Operating Officer at CS Leasing. "We are delighted to welcome him."



Your tank container experts

TWS has more than 25 years of experience in renting out standard and special tank containers for liquid products to the chemical and food industries. TWS also provides various sizes of spill troughs. Customers rely on the outstanding quality of its fleet and value its flexibility in terms of volume and technical features.

For more information: E-mail: tws@tws-gmbh.de and web: www.tws-gmbh.de

TWS
RENT-A-TAINER

POUND | GATES

CHARTERED INSURANCE BROKERS



PREPARING YOU FOR THE JOURNEY AHEAD

We are leading experts in providing insurance and risk management solutions for the tank container industry.

Contact us to discuss your insurance requirements.

Tel: + 44 (0) 1473 346046 | poundgates.com

Pound Gates, Hyde Park House, Crown Street, Ipswich, Suffolk IP1 3LG, United Kingdom. Pound Gates & Co Ltd, trading as Pound Gates, is authorised and regulated by the Financial Conduct Authority and is an ISO and Investor in People accredited company.

Chembid expands its management team with Marc Riley as new Chief Technology Officer

Chembid, the world's largest search engine for chemicals and plastics, is growing in management.

Marc Riley will be responsible for the technical development of the chembid platform as chief technology officer from February 2020 on.

Prior to this, he worked for the German media group Bertelsmann AG as chief technology officer for over a decade.

Not only was he able to gain extensive IT and development experience, but also took over the technical management of various start-up spin-offs of the group.

Christian Bürger, managing director of chembid, believes that the company is now in a better position for the future.

"With Marc, we have gained an experienced technology and data expert, who will help chembid - as one of the leading platforms in the digital chemicals and plastics business - advance technologically further to the top of our field, and thus also support our customers and partners even better in their digital business success.

As technical director, Riley will coordinate internal and external development teams and manage



Marc Riley,
new Chief Technology Officer



Christian Bürger,
Managing Director

the technical implementation of new projects.

In addition to the responsibility of technical operations, he will also be overseeing the ongoing development of the platform and the technical expansion of the business model.

The CTO will play a key role in advancing search engine technology with the help of digitalization drivers such as big data analytics and machine learning.

The platform users will benefit from the industry insights gained in the form of chembid services. In

particular, premium suppliers, who have registered for the PRO Supplier membership, which will be available from now on, will benefit from a broader range of features and services and additional industry information.

Users will be able to harness market potential more effectively and address customers more efficiently.

Chemical and plastics buyers can look forward to continuous improvements in the search algorithm and filter options, which, in turn, will guarantee an even better search experience.

Tankcleaning manufacturer of:

Silo / bulk cleaning
Food cleaning
IBC cleaning
Railway carriage cleaning

Chemicals cleaning
Container cleaning
Container heating
CIP / latex cleaning



The reference in new tankcleaning projects and renovations!



Everdongenlaan 9/19
2300 Turnhout
Belgium

T. +32 (0) 14 27 00 80
info@ctwcleaning.com
www.ctwcleaning.com

SAVVY brings the Internet-of-Things to logistics

Tankcontainer Magazine interviews Aida Kaeser, co-founder and CEO of SAVVY Telematic Systems AG, based in Schaffhausen, Switzerland

TCM: What products and services does SAVVY offer?

AK: SAVVY provides fail-safe, high-quality telematic solutions for rail, road or sea logistics. Our primary target groups include the chemical industry, rail freight logistics companies and those using tank containers. We established ourselves very strongly in the hazardous goods and chemical logistics sector over the past few years and have ATEX, IECEx, Zone 0 certifications authorising use in potentially explosive areas.

The SAVVY® CargoTrac ExR-M1, for example, is approved for Zone 1 and 21 hazardous areas. It is suitable for tank containers, IBCs and rail freight cars and offers the option of connecting external sensors via a 2.4GHz IEEE 802.15.4 or BLE radio interface. In combination with the SAVVY® SenseGateway - which offers four connection options for ATEX sensors – customers can simultaneously monitor temperature, pressure, levels or interlocks by using only one hardware.



Our system monitors the temperature of transported goods and, in combination with heating/cooling systems, can be remotely controlled. It also detects shocks that potentially cause damage during transportation, registering the time and position of the impact, which can help identify the cause. With our telematics solution, companies can improve their planning which can lead to reduced costs and increased

turnover.

We also provide comprehensive process consulting, helping companies to design their logistics processes intelligently.

TCM: What is the lifetime of SAVVY's devices?

AK: All SAVVY's telematics devices can be operated maintenance-free for up to 15 years, depending on the device configuration and the customer's information requirements. The reliable power

supply allows use in all climate zones, even under the toughest environmental conditions.

Configuration requirements, such as how often a device reports "home", can vary over time. Changes can be made using "over-the-air" support - customers do not notice this and do not need to have the device nearby, or we activate this configuration option for the customer in our portal.

TCM: Is SAVVY still a second-tier subsidiary of the SDAX-listed INDUS Holding Group?

AK: Yes, since May 2014, which provides financial stability and absolute neutrality in data storage. We are proud that SAVVY is the first pure Internet of Things (IoT) company in the history of the INDUS group. With INDUS, we have a majority investor which can provide professional support in several areas if required, but one which does not interfere in our operational business.

SAVVY's investors are neither competitors of our end-customers nor insurance companies (which may be interested in collecting data for their own purposes). Neutrality, for which Switzerland is well-known, is important to us.

TCM: What are SAVVY's greatest successes to date?

AK: Our high-tech telematics solutions have received several awards. We received the "IVS Innovation Award 2019" of the Swiss local banks for a product for automatic flat spot detection in rail traffic.

In 2016 and 2018 Telematik-Markt.de awarded us "Top Telematics Provider" for the best solution for monitoring refrigerated transport and for the best-thought-out portal on the market.

We are proud of our open and cooperative corporate culture and the uncomplicated and fair way

Aida Kaeser



Aida Kaeser is co-founder and CEO of SAVVY.

She is also a member of the board of directors for technology and innovation at the "ITS Industrie- und Technozentrum Schaffhausen" association.

After studying business administration and computer science, Aida held various management positions in internationally listed IT companies, such as Head of Support & Consulting, Partner Management and General Management.

we work is reflected in our customer relationships with the likes of TRANSWAGGON.

TCM: How does SAVVY position itself within the telematics market?

AK: We offer customers top solutions for high demands at an excellent price-performance ratio. We particularly focus on topics that other telematics providers cannot easily implement, whether for financial or know-how reasons.

Founded in 2014, SAVVY is relatively young with a unique history - my co-founders and I have more than 20 years of experience in the fields of IoT and telematics/sensor technology - especially in the highly complex ATEX area. We worked together before founding SAVVY, helping us secure technological leadership

in telematics-supported business intelligence.

TCM: Can you give examples of innovative products?

AK: We are constantly developing new, innovative products, even for very specialised and cost-intensive segments. For example, we have an exclusive 5-year partnership with CIMC Tank, the world market leader for tank container manufacturing.

CIMC provides the device to remotely control the electrical heating/cooling system and supplies the liquid fill level and pressure detection solution. These units continuously measure the temperature and the liquid level within tank containers. If deviations occur, transport employees are immediately notified automatically and can react accordingly.

Our latest product is SAVVY® LoadCell. It enables shippers to non-intrusively measure full/empty within tank containers and can be retrofitted. The system is approved for temperature class T6, gas group IIC and Zone 0 hazardous areas.

We attach great importance to a fair pricing: our prices are affordable but enable us to run SAVVY on a solid financial basis. This gives us the financial security necessary to develop further high-tech products. Our goal is not to compete in the price-sensitive, less sophisticated telematics market segments.

TCM: The logistics sector is subject to many regulatory provisions. How do you protect your customers from risks?

AK: There are many regulatory requirements to be observed when transporting goods in different economic areas and individual countries. Due to the low failure rate of our products, we can acquire the highest certifications for global markets.

In the area of explosion protection, for example, our products are approved in accordance with the European ATEX and the globally valid IECEx certification system. For our internationally active customers, this means they don't have to worry about whether they can drive in a certain danger zone or have to take any steps with the device itself.

We are also committed to establishing a market-wide standard that makes all telematics manufacturers compatible with each other. As part of this, SAVVY was one of the first members of the foundation of the Technical Innovation Circle for Rail Freight Transport (TIS).

For wireless sensors, we were the first manufacturer to implement the IEEE 802.15.4 standard which was jointly defined by the TIS companies and we also support BLE technology. The goal is that once all other vendors have adopted the standard - whether IEEE 802.15.4 or BLE - customers will be able to easily combine products from different vendors and substitute one product with another. We are convinced that interoperability is necessary and will prevail.

TCM: Do your solutions work under extreme conditions?

AK: With our hardware products, we record virtually no failures after several years of operation under the toughest conditions, such as the extreme cold temperatures in Scandinavia and Russia.

Our solutions work reliably from Siberia to Africa, regardless of the season and the hours of sunshine. This differentiates our products from those of other manufacturers who operate their telematics units with solar energy.

Unlike ours, solar technology is not always available, either because of pollution or because the hours of sunshine are insufficient.



TCM: Is it expensive to equip a tank container fleet with telematics?

AK: Telematics systems offer numerous advantages that far outweigh the purchase costs - that's why the IoT market is booming. As in other sectors, logistics is facing far-reaching changes with fleet management increasingly being defined by IT platforms, digital networking and automation.

Companies failing to keep up with the digitalisation trend will eventually lose their commercial viability. However, those taking advantage of the technology will gain competitive advantage.

TCM: Are your solutions compatible with customers' IT systems?

AK: To make meaningful use of the collected data, a system is

needed that integrates various telematics units and sensors, logistics software and the rest of the company's IT.

Our cloud-based SAVVY® Synergy Enterprise tool is an open portal. It is compatible with telematics hardware from various manufacturers and has standardised interfaces with all common ERP and dispatching systems. Companies can therefore combine their existing solutions with SAVVY® Synergy Enterprise to create a powerful overall system.

Our portal also offers important business intelligence functions. Consolidated telematics data can be displayed on user-friendly dashboards, analysed against KPIs and linked to customers' IT systems.

We also provide evaluation software which enables raw data to be evaluated by the customer or SAVVY.

Review of the year

Tank container market expert Leslie McCune describes 2019 as 'not great' for the industry and expects 2020 to be worse

Market

The global tank container market continued its very strong performance into the first half of 2019 but weakened in the second half, when uncertainty caused by faltering economic growth and more intense competition led to a sales slowdown and weak margins for many. Those operators that were more dependent on standard tank containers carrying commodity chemicals, or more exposed to intra-regional markets, struggled.

The global chemical sector was caught in a whirlwind of volatile crude oil prices, ongoing trade disputes, new Asian capacity and geopolitical tensions. Some markets were oversupplied while demand stalled in others. As a result, chemical companies cut their outlook for earnings in the face of retreats in the key specialty chemical markets served by tank containers.

Capacity utilisation in the global chemicals sector - widely viewed as a lead indicator of the global economy - continued a two-year decline. Lower petrochemical margins encouraged producers to seek out supply chain efficiencies and the high cost of tank container demurrages was a natural target.

Chemical production appeared more regionalised, contributing to an increase in lower-value, intra-regional tank container movements. Anecdotal evidence suggested that trade tensions affected trade flows, not volumes, while the usual cyclical up-tick in tank container shipments in Q3 simply did not happen for some



operators in 2019.

A PwC survey revealed that the 3-year growth outlook by the CEOs of chemical companies is at its lowest point in five years with economies around the world signalling a slowdown and worsening trade tensions. Worryingly for those in the supply chain, more than 75% of CEOs view cost-cutting as their primary activity for driving profitability. This year's coronavirus pandemic will only compound these concerns.

Depressed margins for chemical producers, combined with large tank container demurrage bills, caused several to rethink their operator vs lease model.

The tank container leasing market was muted in 2019 and utilisation rates, with a few exceptions, were lower (although this may have been caused by fleet expansions). Operators described the market as 'fairly

flat'. Some high growth tank container operators, who had effectively been buying market share over the past couple of years, moved towards more market-driven rates.

Fleet update

The International Tank Container Organisation published its annual global tank container fleet survey in March.

According to the survey, the global fleet on 1 January 2020 reached a new record of 652,350 units, an increase of almost 8% on the previous year. Growth in the global tank container business slowed last year, it said, 'reflecting the fall in global trading conditions experienced by many sectors of the container shipping industry'. The weakness in growth in 2019 will, however, be insignificant compared to the inevitable decline in tank container activity in 2020, after

the full impact of the current COVID-19 coronavirus emergency is known.

Manufacturing

Unsurprisingly, tank container manufacturing in China continued to dominate the industry in 2019, despite the global figure falling by nearly 9% to 54,650 units.

The largest production falls came at CIMC, down 2,500 units to 27,000, and at Singamas, where production fell by 2,000 units to 3,500. The recent added drag of the coronavirus pandemic will inevitably depress market demand for tank containers and some manufacturers may simply go bust before the market, ultimately, recovers.

With tank container manufacturing capacity far exceeding demand, the fight for new orders intensified. This, in turn, drove down tank container prices to an historical low of as low as \$13,000 for a basic T11 unit. Chinese tank container manufacturers reduced the price of new build tank containers to below break-even in some cases, in an effort to maximise volume throughput. Prices fell by 50% in 2015.

Manufacturing margins have collapsed in the last three years despite the price of nickel (the largest cost component in stainless steel) touching its lowest level for 15 years.

One consequence of the rapid price erosion is a lowering of the entry level for new tank container operators and lessors. This led to lower lease rates throughout the leasing sector, forced operators to lower their rates as customers became aware of the lower leasing rates and lowered the asset values of fleets.

Tank container manufacturers in China prioritised volume over value, not least because labour-intensive enterprises like tank container manufacturing receive favourable funding. In contrast,



Welfit-Oddy in South Africa prioritise value over volume and has increased the proportion of specialised tank containers being manufactured while investing in production process efficiencies. They were the only Top 4 manufacturer to increase production in 2019.

Over-buying, especially by lessors, has resulted in large stocks of tank containers - up to 10,000 units - in the yards of tank container manufacturers. This equipment, combined with those that are essentially out-of-play for maintenance, repair, repositioning or awaiting purchasers are said to account of nearly 20% of the overall global fleet.

China's capability to produce technically-sophisticated, specialist tanks - in addition to generic T11-type commodity tanks - has increased dramatically in recent years. Tank purchasers would probably prefer to see a less concentrated, and therefore less dominant, group of suppliers so there is room and encouragement for new entrants. These could be in China or even eastern Europe, where novel Fibre-Reinforced Plastic tanks - originally for Russian rail users - are manufactured.

JJAP and CXIC, set up by former CIMC employees, both want to expand aggressively.

Operators

Although Bulkhaul's industry participation is the lowest among the leading operators its 42% gross profit margin for the year end 30 June 2018 compared very favourably to the gross profit for Stolt Tank Containers, the industry leader in terms of fleet size, of 23% for its 2019 financial year.

Stolt is one of the three tank container operators offering both parcel tanker and tank containers, creating a more leveraged business model to deal with market volatility. In strong economic conditions, there may be more appetite to ship in larger volumes, benefiting parcel tankers. Conversely, weak economic activity - as we are now experiencing - leads to shippers prioritising cash flow and therefore interest in shipping smaller lot sizes in tank containers. Rising fuel costs will squeeze margins unless passed on.

Sinochem is both a tank container operator, via NewPort, and a lessor, via Albatross. It is also the world's fourth largest chemical and parcel tanker owner. Elsewhere, Singapore-based MOL Chemical Tankers (previously known as Milestone Chemical Tankers and, more distantly, as Tokyo Marine) acquired a 20% stake in tank container operator Den Hartogh Logistics' holding company in 2019.

Regional activity

US/China tariff tensions disrupted investment strategies and took their toll on chemical trade flows between the two blocs. China's new mega-refineries, and their associated petrochemical plants, are part of its drive for self-sufficiency. These, as well as new petrochemical capacity in Southeast Asia, changed some tank container flows into China last year.

There were no surges in EU chemical production growth in 2019 and transatlantic tank

container volumes were broadly unaffected by tariff tensions.

In Japan, JOT, UCL, Nippon Concept, MCLC and NRS all appeared busy through the year.

The US market had shortages of equipment in the earlier part of 2019 due to a buoyant market but availability eased in the second half of the year.

China continued its robust demand for tank containers for the domestic transport of bulk liquids.

In Saudi Arabia, 2019 saw a recovery of tank container volumes although the market remained problematic for some players. The increase in the number of operators in the region resulted in an over-supply of equipment.

Last year's Middle East hot spots included the import of over 2,000 tank containers of helium into Qatar for the likes of Praxair, Linde, Air Liquid and Iwatani while Haliburton, Baker Hughes and Schlumberger are all transporting more gas by road.

Although several operators have a slice of Sadara's tank container opportunities, Hoyer appears to have been the more successful at leveraging their local presence. Its joint ventures with Globe Marine in Saudi Arabia and with Petrochem Middle East and Al Fahdah Arabian Trading Company have been very effective.

For some GCC tank container operators, the blind optimism of five years ago is proving to be a mirage. For others, who understood the opportunities more clearly, the region is yielding dividends.

Linking an operator's global and regional tank container flows is a key to building network margin-generating revenue.

Trends

The key success factors for deep sea operators remained network density, fleet composition and fleet efficiency.

Critical to the latter is a

digitalisation strategy - most tank container players are developing ways to leverage technology to improve their operational efficiency, transparency and reliability. Investment in digitalisation was often prioritised over fleet replacement and expansion in 2019 with telematics raising the bar in terms of levels of safety, real-time journey management, customer service and operational efficiency.

Leading tank container telematics companies include IMT, SAVVY and Ovinto with Microlise and Nexxiot's Globehopper offering transport fleet digitalisation. Installation is widespread - sensor fitting for Hoyer's entire fleet, for example, will be done by Cotac and take up to three years to finish, with 22,000 already fitted.

A typical price to make a tank container 'smart' i.e. being equipped with a GPS/communication device and thermometer costs approximately €600. In addition, the monthly subscription is around €3.85 for European roaming (including Russia, Morocco and Turkey) and €4.85 for worldwide coverage.

One limitation is the limited connectivity during ocean sea voyages. This can be solved by satellite connection, but this only works if the tank container is at the top of the on-deck stack. If the tank container is in the belly of the vessel, or even within a stack on the deck of the ship, satellite communication will not function. Shipping companies such as Maersk, MSC and Hapag Lloyd are in the process of installing vessel networks to enable sensors to connect.

Digitalisation should help fourth-party logistics providers (4PLs), which further penetrated the tank container market in 2019 although, arguably, 4PLs can make already complex chemical supply chains more complicated. This must be traded off against the



potential cost and service benefits 4PLs claim to deliver.

A supportive secular trend for the tank container industry is that highly cyclical petrochemicals are the fastest-growing part of the crude oil barrel with many energy companies are now trying to maximise their exposure to petrochemicals.

In 2019, more lessors looked to broaden their offering by including specialist equipment like swap-bodies, T50 gas tanks, T70 LNG cryogenic tanks, specials and composites. Customers increasingly expect leased tank containers to meet their specific requirements for payloads and fittings.

The more effective lessors are seeing current utilisation well above their historic average but their spending spree on low-priced new builds started in 2015-2016 is waning and purchasing became more disciplined in 2019. Several operators shortened the age profile of their fleet and, given the favourable leasing rates on offer, were more inclined to lease-in tank containers to meet incremental demand.

The greatest increase in swap-body demand was in China.

There was an increase by global infrastructure funds and private equity interest in tank containers in 2019 with cash-on-cash and premium-to-net book value being key financial metrics. (Cash-on-cash is a standard measure of evaluating cash flow from income-producing assets and is the ratio of annual pre-tax cash flow to the total amount of cash invested.)

Some firms were looking to back management teams with investment capital while others are targeting lessors with sub-optimal cost of capital or bolt-on acquisition potential. Overall, several billion dollars of investment is available to the sector.

Despite the increasing emphasis

of major chemical producers on sustainability, there is still little evidence of a wholesale move for non-hazardous cargoes to migrate from using low cost, single use flexitanks - which are typically sent to landfill after a single use - to the more environmentally virtuous (but usually higher cost) closed loop packaging concept offered by reusable tank containers.

More broadly, the low price of Chinese-built tank containers has stimulated the creation of new logistics providers with some claiming that this has led to an increase in the mis-declaration of cargoes and, according to M&S Logistics, a reduction in the inclusion of inhibitors and stabilisers as chemical shippers struggle to maintain margins.

Outsourcing continues, albeit at a slower rate, and a general trend is the greater use of tank containers for storage. Asia and the Middle East have the greatest prospects for tank container growth.

Corporate action

The leasing sector still looks rife for consolidation with seed capital and growth-focused investment available at very competitive rates. Relatively recent entrants have included CS Leasing, which was formed by box container lessor CARU Containers and then quickly grew with funding from Maas Capital/ABN AMRO. Purchases included new 35,000 litre baffled swap tanks from Welfit Oddy.

Recent consolidation has reduced the number of lessors but, although there is a surplus of new-build equipment available from large lessors, they are approaching concentration limits with some customers.

Any consolidation will inevitably tighten availability although the relentless production push of the Chinese tank container

manufacturers will continue to far exceed demand.

GEM Container was acquired by venture capitalist Rampart back in 2017 and Albatross Leasing, a subsidiary of Sinochem International Logistics, has grown and widened its tank range.

Most significantly, HNA took down the 'For sale' sign above Seaco, the world's second tank container largest lessor. At \$89 billion, HNA had China's largest corporate pile but failed to achieve its price objective for Seaco. Interest was said to come from China Cinda Asset Management, Apollo Global Management, Sumitomo Mitsui Financial Group and other private equity firms.

Eurotainer, part of SNCF Logistics' Ermewa Group, consolidated its leasing position by acquiring Raffles Lease and its fleet of more than 14,000 tank containers. It will keep the brand despite ditching the TML brand when Eurotainer acquired it in 2018.

Outlook

After a recent good run, the tank container market has become less attractive. With reduced short-term demand and over-supply, pricing and margin pressure will become more acute and the market will become even more competitive. The coronavirus outbreak will make 2020 worse than 2019.

Tank container players will place more emphasis on free cash flow and re-financing rather than top-line growth and/or capacity increases. Headline-grabbing profitability growth will be less evident, utilisation improvement will be prioritised, and more consolidation is inevitable.

More positively, T50 and T70 tank containers offer attractive growth while secular trends will continue to drive the market up in the medium-to-long term.

Shape of things to come

BASF, the world's second-largest chemicals producer, has an 'integrated logistics concept' that could have far-reaching implications for the tank container sector, reports Brian Dixon

From container terminals to dangerous goods warehouses, the rate of automation and digitalisation is accelerating at breakneck speed. Admittedly, we may not yet all have personal jetpacks and flying cars but things are looking increasingly futuristic nonetheless, with German chemical giant BASF very much leading the way when it comes to bringing this real-life sci-fi to the world of tank containers.

But while the thrust of much recent technological advancement has been to miniaturise things, preferably down to the nanoscale if possible, BASF's tank container fleet has very much gone the other way with the ongoing deployment of 45' and 52' 'rail-optimised' units for use both within and beyond its immense home site in Ludwigshafen.

Developed in conjunction with Belgium's Van Hool over a two-year period, and suitably known as BASF-class tank containers (B-TCs), these mega tanks were first launched in 2017 and have filling capacities of 53-63,000 litres and 73,000 litres. As such, their handling capacities are, in BASF's words, "double that of today's typical tank containers and similar to that of a chemical rail tank car". However, unlike rail tanks, these units are able to marry the benefits of bigger bulk consignments with the logistical flexibility of conventional 20' and 30' tank containers.

Indeed, the B-TC can not only "be transported on any kind of railway track", but they can also be transported via inland



waterways and also, when empty, by road. They also require considerably less rail infrastructure than conventional rail tanks; offer greater flexibility in loading and unloading; and can be stacked six-units high when filled, meaning that they can also be used for liquid storage (something that can be further enhanced with the application of modern insulation and heating capabilities). As these units can be quickly removed from a container wagon, they are also easier to clean and repair.

Modal shift

In addition to these clear logistical benefits, B-TCs offer important cost advantages over rail tanks, with Van Hool calculating that "the annual circulation of a tank wagon averages just 25,000 km compared to 180,000 km for a container wagon". Consequently, "this large-volume tank container will significantly increase the competitiveness of rail tank transport and potentially

encourage the shift of liquid transport from road to rail".

As Erik Taeymans, director of Van Hool's Industrial Vehicles Business Unit, puts it: "The collaboration between BASF and Van Hool has led to the development of a revolutionary concept that will fundamentally change how chemical products are transported. The tank container developed by BASF and Van Hool is optimised for rail transport and will possibly lead to a further shift of chemical goods transport from road to railway. This shift will improve safety and have a positive impact on road congestion and the environment."

It would appear that BASF is inclined to agree. "We are convinced that the B-TC is a game changer in rail logistics in the chemical market in Europe," it states, reporting that during "the upcoming years" it intends to triple its current fleet of around 1,000 B-TCs to around 3,000. "Our plans envisage that all liquid

substances that are currently transported by rail at the Ludwigshafen site, and all liquids that are transported between the Antwerp, Schwarzheide and Ludwigshafen sites, will be moved in B-TCs. The new transports are significantly cheaper and faster than the old tank car transports. In addition, further transports (raw material deliveries [and] customer transports) are being planned to be moved in B-TCs."

Safety assessment

While the size of these new behemoths might raise a few question marks with regard to handling and safety issues, BASF is quick to allay any fears, noting that a risk assessment conducted by Bureau Veritas showed that B-TCs have, as a minimum, the same level of safety as that associated with traditional tank containers. Moreover, the risk assessment, BASF says, also found that "for certain identified hazards, the new system increases the [level of safety] within the railway system".

Furthermore, BASF is confident that the B-TC "will become a new segment in intermodal transport", with Hupac and Kombiverkehr already operating "some hundreds of rail wagons" able to transport these units, which are now being produced by Magyar and CIMC in addition to Van Hool. Meanwhile, various intermodal terminals, the company reveals, are planning investments in equipment capable of handling loads of up to 75 tonnes. Consequently, BASF will soon "have options to move 75-tonne containers "not just in Ludwigshafen, but also in Antwerp, Schwarzheide, Hamm and Tarragona". "A new 75-tonne terminal network close to the chemical industry sites is coming," it says, noting that B-TC rail transports to Russia and China are also under investigation.

While loaded B-TCs cannot at present be transported by road,



Michael Heinz, member of the BASF Board of Executive Directors

BASF remains unperturbed. "Our priorities in transportation are the sustainable transport modes [of] barge and train before truck. Therefore, road transport is not the main focus of BASF," it says. However, the fact that empty units, whether cleaned or uncleaned, can still be dispatched by road "is an important point in the concept" as it means that B-TCs can be sent for cleaning and maintenance regardless of modal access. "Also," the company adds, "for the repositioning between two transports, the empty transport by truck is important."

Driverless vehicles

If you do see a B-TC travelling by road, though, you might want to look at who is or isn't driving the vehicle that is transporting it. After all, if you visit the Ludwigshafen site, there is a very strong chance you will catch sight of one of the company's automated guided vehicles (AGVs). Described by the company as "a worldwide first", these driverless vehicles have been jointly developed with the Netherlands-based VDL Group for first- and last-mile transports.

Measuring 16.5 meters in length, they are capable of carrying a fully laden 45' or 52' B-TC or two conventional tank containers of up to 26'. With their

low profile enabling them to easily negotiate overhead cables and piping, VDL reveals that these fully electrically-powered autonomous vehicles can cover routes "over a distance of more than 100 km at a maximum speed of 30 km/h". Importantly, this is all done in accordance with a "certified level of safety [that] is achieved [through the] smart integration of computers, cameras, sensors and scanners".

Moreover, with 32 wheels and eight steerable axles, these AGVs, VDL asserts, are "much more advanced in technology" than similar automated transporters currently used in maritime terminals and represent "the first vehicle in the world where the surrounding area no longer needs to be protected or in which a 'guard' has to ride". Indeed, despite a fully laden AGV potentially weighing over 100 tonnes, these highly manoeuvrable units, BASF reports, do "not cause any damage to roads", which at Ludwigshafen they share with an array of more traditional users, including "trucks, cars, forklifts, bikes and pedestrians".

Highly accurate

When it comes to negotiating routes and fellow road users, these AGVs clearly have their work cut out considering that the Ludwigshafen site covers some 10 km²; employs a staff of 40,000; handles some 2,100 trucks, 400 rail cars and 20 barges a day; and "is in size and traffic complexity comparable with Manhattan". Indeed, describing itself as "one of the frontrunners worldwide using autonomous vehicles for cargo transport", BASF currently operates seven of these "reliable" vehicles at the site, each "doing around 100 round trips per day" and boasting a driving accuracy of ± 30 mm.

This precision, BASF says, is down "to a second navigation

support system": the use of transponders embedded in the ground that guide the vehicles in transit, keeping them in lane and moving in the right direction, something that is very "important if you drive on a shared infrastructure". Furthermore, while "numerous sensors and cameras on the AGV and the transponder-defined lane ensure safety", BASF also continually monitors its AGVs from a control centre.

"Our AGV can become an important part of the intermodal transport chain," the company says, noting that they have the potential to undertake first- and last-mile transports of up to 25 km. "They are fully electric, able to share standard road infrastructure with others and able to transport a payload of up to 78 tonnes. The AGV allows rail to benefit from autonomous driving on the road and to keep the advantage of intermodal transport. Therefore, we see in the future a market for AGVs in other chemical sites and for the transport around intermodal terminals on public roads."

And it would seem that the company has good reason to champion these vehicles. As might be imagined, the logistical processes at Ludwigshafen are somewhat complex, with the company building around 40 internal trains a day while also undertaking a considerable amount of shunting and repositioning. The use of AGVs, however, does away with a significant amount of this, with BASF reporting that their use "reduces the time required to deliver a tank car from BASF's railway station to one of the more than 150 loading points at the site from around 22 hours to around one hour".

But that's not all. In addition to B-TCs and AGVs, a third pillar of the company's 'integrated logistics concept' is to enhance customer service while reducing



costs concerns using 5L container wagons for external rail transports. Based on a concept devised by the Technical Innovation Circle for Rail Freight Transport (TIS), these wagons, BASF explains, have been optimised in terms of noise reduction, payload and logistics capabilities, mileage and lifecycle costs and will ultimately replace the conventional units currently employed.

Automated storage

Meanwhile, the fourth pillar manifested itself inside Ludwigshafen towards the end of 2018 in the guise of a fully automated outdoor tank container storage facility. Designed for the storage of liquid chemicals and waste, it has a capacity of 2,000 standard containers and features two cranes with a loading capacity of 75 tonnes apiece. With tank containers stacked six-units high, this facility, BASF reports, can accept and dispatch consignments via truck, rail and, of course, AGV.

"The fully automated tank container storage facility and the autonomous transport vehicle demonstrate the high degree of innovation in the automotive and logistics industry. Automation and digitisation are not dreams of the future but open up new opportunities and possibilities," Dr Volker Wissing, Rhineland-Palatinate's Minister for Economic Affairs, Transport, Agriculture and Viniculture, stated at the opening of the facility. "The further development of logistics is a central task for our internationally operating companies in order to

succeed in global competition. BASF is open to innovative technologies."

These sentiments were echoed by Michael Heinz, member of the BASF Board of Executive Directors, who stated: "A well-networked, efficient infrastructure is of central importance for our competitiveness. It supports our growth and thus has an impact on jobs. Of course, this applies not only to BASF, but to all companies, especially the manufacturing ones".

BASF calculates that its integrated logistics concept will not only help it "significantly reduce logistics costs" but also cut rail transport round trip times by three to four days. "This makes rail more flexible, reliable and agile and more products can be transported by [it]," the company says. "The transport volume at the Ludwigshafen site is around 20 million tonnes per year. Since the transport links at the Ludwigshafen site account for a considerable share of costs, there is the main advantage of the concept. This combination will lead to a considerable improvement in terms of competitiveness."

Indeed, this marriage of innovation, will, in the words of Ludwigshafen's site manager Dr Uwe Liebelt, make the company "more flexible and significantly more competitive in customer service by rail in the future. We are making an innovative leap forward in logistics at the site and are setting an example for the entire industry."

Record global fleet size

ITCO's latest global fleet survey highlights a record fleet size, but caution and concern are the new watchwords

The International Tank Container Organisation (ITCO) published its annual global tank container fleet survey in March.

According to the survey, the global fleet on 1 January 2020 reached a new record of 652,350 units, an increase of almost 8% on the previous year. Growth in the global tank container business slowed in 2019 compared with previous years, it said, 'reflecting the fall in global trading conditions experienced by many sectors of the container shipping industry'.

The weakness in growth in 2019 will, however, be seen to be insignificant compared with the inevitable decline in tank container activity in 2020, after the full impact of the current COVID-19 coronavirus emergency is known.

The survey noted that, in 2019, the market continued to expand 'due to the continued successful conversion of certain cargoes – previously shipped in drums or transported in chemical tankers – to tank containers'. China continued to see significant growth in tank container demand for the domestic transport of bulk liquids, while inter-Asia – especially South-East Asia – tank container operations continued to develop strongly, the survey noted.

In 2019, the majority of new tanks were purchased by leasing companies, mainly to service the equipment requirements of tank container operators. As more lessors make more tank containers available, more 3PLs and 4PLs have entered the market. The survey claims that 'these companies often have little – or no

– accredited infrastructure to support their growing fleet of tanks, which (we can assume) they have taken on because of the low lease rates on offer, and on a shorter lease period'.

Unsurprisingly, production in China continued to dominate the industry, despite the number of tank containers manufactured falling by nearly 9% to 54,650 units. In terms of numbers manufactured, new producers China-based Jing Jiang Asian-Pacific Logistics Equipment (JJAP) and Port Elizabeth-based Welfit Oddy were the only manufacturers to increase output. JJAP doubled its output, albeit from a small base of 1,500 units, while specialist manufacturer Welfit Oddy increased output by 300 units to 5,150 tank containers.

Fourth-placed operator Bertschi had the largest fleet increase, up 1,700 units to 25,000, while market leader Stolt Tank Containers had the second largest increase, up 1,344 units to 40,500.

The largest production falls came at CIMC, down 2,500 units to 27,000, and at Singamas, where production fell by 2,000 units to 3,500. The recent added drag of the coronavirus pandemic will inevitably depress market demand for tank containers and some manufacturers may simply go out of business before the market, ultimately, recovers.

The good news was that tank container prices continued to be at bargain basement levels in 2019. While this has driven down manufacturing margins, lessors and operators took advantage of the prices to refresh and renew

their fleets. Over-buying resulted in large numbers of tank containers being left in manufacturers' yards, with estimates of up to 10,000 in China alone.

The tank container operator segment, where the top 10 operators account for 56% of the global operators' fleet, is far less concentrated than the leasing segment, where the global market continues to be dominated by a relatively small number of lessors. The top three leasing companies – Exsif Worldwide, Eurotainer and HNA-owned Seaco Global – account for almost 55% of the total fleet.

The number of operators and lessors increased, with smaller players entering the market, often in niche markets such as South-East Asia.

As we note in the 'Review of the Year 2019', more lessors looked to broaden their offering last year by including specialist equipment like swap-bodies, T50 gas tanks, T70 LNG cryogenic tanks, specials and composites. Customers increasingly expected leased tank containers to meet their specific requirements for payloads and fittings.

All in all, 2019 wasn't a great year for the tank container industry and, due to the global coronavirus pandemic, 2020 will definitely be worse. It's just a question of how much worse and who the corporate casualties will be. However, the industry should take heart that a number of key secular trends support the medium-to-long-term growth prospects for the tank container sector.

It's a dirty job, but someone has to do it

Like all capital equipment, a tank container must be cleaned. James Graham explores a sector that has grown up for this single purpose

It is a truism that after the first ISO tank container was emptied of its debut load, it was realised it had to be cleaned before it was refilled with its second load. As a result, an entire industry and skill set has developed to perform this essential function in the global supply chain for all manner of users and all manner of liquid loads.

Over the decades, players have come forward - sometimes arms of manufacturers or lessors, sometimes stand-alone operators - equipped with a variety of steam and chemical cleaning apparatus, skilled personnel and suitable premises to clean and, often, repair tank containers.

But whether they clean dozens or hundreds of thousands of tank containers a year, all operations have one thing in common: the tank containers come out of a depot cleaner than they were when they entered the depot. It might seem commonsense but what exactly does 'clean' mean in the context of tank containers?

According to the European Federation of Tank Cleaning Organisations (EFTCO), the meaning is simple and straightforward. EFTCO says a tank container "shall be described as clean when there are no visible traces or odour of the last product or cleaning agent following an



inspection from the man-lids."

Isotank, a division of Boasso UK, offers a network of cleaning depots that allows the company to offer full service 'all-in-one' services to the tank container industry at key locations in the UK, claims the company.

Its network of depot locations is tactically and strategically positioned near crucial motorways. This, combined with a quick turnaround of vehicles and "our proximity to commercial and industrial areas throughout the United Kingdom", assures customer requirements can be serviced in a 'moment's notice', says the company.

"Our cleaning bays are equipped with multiple spinners and enable our six locations to perform more than 64,000 cleans

per annum," they say.

Given the increasing demands and responsibilities of environmental issues, Isotank Group has made significant investment into fume scrubbing and specialist cleaning equipment, to control vapour release and the treatment of effluent generated by the cleaning process. Where necessary, excess product may be removed and disposed of prior to specialist man-in-tank cleaning being performed.

The electronic EFTCO Cleaning Document (eECD) is a support document for every tank clean in the supply chain process and documents the cleaning process. The uniform EFTCO Codes describe the steps and are multilingual, available in all



LogiChem

08 - 10 September, 2020 | De Doelen ICC Rotterdam

Europe's Only Chemical Supply Chain Conference

www.logichemeurope.com
logichem@wbr.co.uk

cleaning
your
world



Tank Cleaning
Systems



Food / Non-Food
Cleaning Systems



Parts & Service



Overschieseweg 111
3044 EH Rotterdam
The Netherlands
Telephone +31 10 437 10 22



MOOSE TANK PARTS B.V.

Your One Stop Shop Supplier



Frank van de Moosdijk

frank@moosetankparts.com
www.moosetankparts.com



European languages. The use of this document is restricted to quality-approved cleaning stations that are members of a national association.

EFTCO, Cefic and ECTA created a standard paper-based ECD in 2005 and consider the harmonised digital eECD process as the industry's future best practice.

EFTCO, CEFIC / essenscia and ECTA have worked together to start a project to digitalise the existing paper version of the EFTCO Cleaning Document (ECD) into the electronic EFTCO Cleaning Document (eECD), controlled and supervised by the European Chemical Logistics Information Council (ECLIC), by

- ECTA: European Chemical Transport Association
- essenscia: Belgian federation of the Chemical and Life sciences industry
- EFTCO: The European Federation of Tank Cleaning Organisations

EFTCO declares the worthiness of the eECD information as the paper version of the EFTCO Cleaning Document (ECD).

The process

Tank container cleaning is an essential part of the supply chain for chemicals, foodstuff and other products. The tank to be cleaned may be a tank vehicle, tank container or any other receptacle previously used for holding products that needs to be washed after it is emptied.

In the case of foodstuffs, tanks are more frequently cleaned, even if they are used for the same product, to avoid biological degradation of the foodstuff remaining in the tank after discharge. Cleaning is performed by cold or hot water, sometimes with the addition of acidic or alkaline cleaning agents. In some cases, effective cleaning can be achieved only by using surfactants.

Standard cleaning processes

1. Make arrangements for cleaning prior to discharge of the cargo, agree specification and costs.
2. Identify the last cargo.
3. Establish the cleaning procedure and environmental regulations regarding cleaning and disposal of residues and vapours.
4. Ensure discharge procedures are confirmed with the consignee and transporter and that the tank is fully discharged.
5. Determine the next cargo to be loaded in order to specify any special instructions at the time of cleaning.
6. Cleaning of valves and top outlet syphon tubes and renewal of gaskets or seals should be specified as required.
7. Stubborn stains or cargo film might need to be removed by polishing with nylon pads. No other form of abrasive material should be inside the tank without expert advice.
8. Dry the tank on completion of cleaning.
9. Ensure inspection is completed and that the tank is cleaned to the specified quality. The cleaning station should issue a cleanliness receipt confirming the cleaning process carried out. An independent surveyor should be employed where a Cleanliness or Safety Certificate is required.
10. Remove all redundant labels
11. The exterior of the tank should be cleaned to remove any cargo residue and to ensure that mandatory markings are legible. The ladder and the walkway should be kept clean to ensure safety of personnel.

Source: Tankspan

Aqueous and gaseous effluents

An essential part of the tank cleaning process is the treatment of the aqueous and gaseous effluents. The amount of the aqueous stream from one cleaning step varies from a few hundred litres to the full volume of the total wash process when cleaning a 25 m³ tank, but its nature changes from one tank to another, depending on the original content of the tank.

The wide range of products cleaned means the resulting wash water is a variable mixture that cannot be foreseen; as a result,

tank cleaning companies have to be professionally adept at the environmental treatment of effluent streams in a responsible way through specially developed and adaptable systems. The cleaning stations affiliated to EFTCO are active in developing green treatment solutions.

Green cleaning

To many outside of the industry, tank cleaning is a dangerous, dirty and polluting business. However, most European tank cleaning installations utilise very sophisticated wastewater treatment plants to overcome these issues.

A second aspect of tank cleaning is the fact that dedicated transport can be avoided. Dedicated means that the same product is transported in a tank and assumes an empty return to the loading place after unloading.

For the International Tank Container Organisation (ITCO), cleaning is one of the most important and dangerous processes in the transportation chain. Availability of a suitable cleaning station must be taken into account before a cargo is accepted for transportation as not all cargoes will be able to be processed by an individual cleaning station.

The cleaning station must be equipped with all the required health and safety equipment and must carry out rigorous safety procedures, including atmospheric monitoring, before allowing personnel to enter a tank container. Tank containers should be dried immediately after cleaning. It is highly probable that the final rinse water will be chlorinated which will corrode stainless steel. Failure to clean correctly, immediately after discharge, can result in the next cargo being contaminated with the former and/or corrosion affecting the pressure vessel.

It is most important that the

cleaning is carried out in a recognised cleaning station which has the capability of removing and properly disposing of any cargo residue in a safe, environmentally friendly way.

The availability of a suitable cleaning station must be taken into account before a cargo is accepted for transportation, not least because not all cargoes will be able to be processed by an individual cleaning station.

Outdated controls

Many tank cleaning companies run on outdated controls with a number of potentially major risks. This is a warning from Netherlands-based Gröninger Cleaning Systems: "Control cabinets hang in a damp environment and have to endure a lot. Operating screens are available beyond the 20 year end-of-life limit and can hardly be obtained anymore. Cables often have been in the gutters for more than 20 years and become brittle. Components such as PLCs are difficult to obtain. If these fail, the entire installation will be flat for an indefinite period. PLC software is outdated and not very flexible," says the company.

In addition, the digital world demands more transparency of the cleaning process. New operating systems can offer this transparency and offer many options for linking data. But the question is how to replace a complete control system if the installation is not allowed to stand still?

In the past year, Gröninger has replaced the complete control system at various customers, both at home and abroad. This has included control cabinets, PLCs, cabling and software. These 'open heart operations' require very thorough preparation and project planning. Stoppages may incur reputational damage.



Every installation had its own challenges, including working while floors were being replaced. The conversions have all been successful and achieved within the agreed time. In this way, customers are future-proof again and can serve their customers even better.

Lessors care

While operators and users of tank containers are rightly concerned about the cleanliness of the equipment, another industry stakeholder has an angle on the cleaning of tank containers.

Lessors look to maintain fleets of tank containers that can be let out on spot hire rates or long-term leases. Companies such as Godalming, UK-based Tankspan and Braak, Germany-based TaCon have distinct thoughts on the cleaning of the tank containers they lease out.

According to Rodney Dawe of Tankspan, responsibility for the cleaning of equipment very much lies with those operators who lease out their tank containers. He says, "As a lessor, we don't get involved in the cleaning process while the tank container is out on lease. The lessee is expected to bring it back clean, with a valid cleaning document. This then allows for people to enter the tank container safely to give it a proper clean. Cleaning is carried out by third party depots we use."

The EFTCO definition carried earlier in this article finds no favour with Dawe. He says: "Clean is when a classification society company such as BV/ABS/Lloyds/DNV produce and sign a cleaning certificate."

His concern is straightforward and an obvious commercial issue for Tankspan. If the tank containers were not cleaned between each hiring "one wouldn't be able to lease out a non-clean tank" he says. Tankspan leaves the cleaning of its tank containers to third parties.

Responsibilities

For Jan Hempelmann of TaCon, the country may be different but the responsibilities of the lessor remain constant. He says, "We only use third-party cleaning stations. We work with various partners in Europe depending on the product and the geographical location - HCCR Hamburg, Köppen Duisburg, Tank Services Pernis (NL), Boasso, etc. In principle, he shares the EFTCO definition in general but adds, "I would add that a tank container is only 100% clean when all gaskets of a tank container are changed after each lease trip." According to Hempelmann, tank containers shall only be returned to lessors with a certified cleaning document and shall only be leased out with a certified cleaning document.

Strategic options

Were Stolt Tankers to be spun off, taking most of Stolt-Nielsen's profit with it, Stolt Tank Containers may have some attractive new opportunities

Stolt-Nielsen is a leading global provider of integrated transportation solutions for bulk liquid chemicals, edible oils, acids and other specialty liquids through its three largest business divisions: Stolt Tankers, Stolthaven Terminals and Stolt Tank Containers. The company also includes Stolt Sea Farm (producing turbot, sole, sturgeon and caviar) and Stolt-Nielsen Gas (investing in LPG and LNG shipping and distribution).

Since its founder, Jacob Stolt-Nielsen, retired in 2014, the view of financial commentators is that its performance has not been strong and, although profitable since 2003, its recent (pre-coronavirus) stock price was the same as it was over ten years ago.

Stolt-Nielsen's asset base was \$4.5bn at the end of its 2019 financial year (new IFRS 16 accounting standards should increase the company's assets and liabilities by around \$200m).

Net profit fell by 65% to \$19m (less than 1% of revenue), despite a recent tripling of the asset base of both Stolt Tank Containers and Stolthaven Terminals, the purchase of new ships and the acquisition of the chemical tanker fleet of a competitor, Jo Tankers, in 2016 for \$575m.

Other metrics underline the weak performance - operating profit has fallen since 2015 and the £175m of operating profit in 2019 was below that in 2014. Operating revenues of \$2.04bn in 2019 were similarly below those of



2014, the year the company's founder retired after 55 years (relinquishing leadership to his son, Niels G. Stolt-Nielsen, in 2000).

Stolt-Nielsen's priorities must be to cut debt, cut operating expenditures and carefully scrutinise capital expenditure (half of capex in the next five years is allocated to Stolthaven Terminals).

The company's objective has been "to increase the long-term and sustainable growth of its EBITDA (earnings before interest, tax, depreciation and amortisation) to increase dividends to shareholders". EBITDA measures the company's operating performance without factoring in financing, accounting or tax decisions over which the owners of the business have discretion.

However, because EBITDA only looks at core operations, there are some concerns about using EBITDA as a key objective for a capital-intensive business such as Stolt-Nielsen. No account is taken

of the impact of capital structure, leverage and non-cash items like depreciation. If a company's depreciation is high, the cost of maintaining and sustaining its capital assets should not be ignored. It is sometimes regarded as a questionable performance metric, given that companies can change the items included in their EBITDA.

There has been no material increase in EBITDA in any of Stolt-Nielsen's four main businesses in the past three years so, to drive the company's EBITDA objective, the company could conceivably separate out Stolt Tankers as a standalone entity, making it easier to seek further consolidation in the fragmented chemical tanker market.

An IPO has been publicly discussed, of either Stolt Tankers as it is today or in combination with a merger or acquisition. This should reduce debt levels and, until this is achieved, CEO Niels

Stolt-Nielsen has said there will be 'no more significant capital expenditure'.

Although remote, there is at least a possibility that Stolt Tankers could end up as not being an integral part of Stolt-Nielsen. In that unlikely event, over half of the assets and half of the operating profit would be carved out of Stolt Nielsen Limited as it is today. Industry players suggest that this could be a trigger event that might change the business logic of the overall company and, in the process, open up new and potentially attractive opportunities for the remaining businesses within Stolt-Nielsen Limited.

Business model

What of the current business model? Jacob Stolt-Nielsen pioneered the concept of chemical parcel tankers. These are smaller than the average chemical product tanker due to the specialised nature of their chemical cargoes and the size restrictions at port terminals. The vessels can cost \$100 million and have up to 50 separate stainless steel cargo tanks carrying a wide range of usually hazardous cargoes.

Stolt Tankers is now the world's leading operator of deep sea and regional chemical tankers. Overall, it has 66 deep sea ships and 58 wholly owned regional ships.

In 1971, Jacob Stolt-Nielsen acquired his first bulk-liquid storage terminal, leading over time to Stolthaven Terminals. An integrated tanker/terminal service led to the owner's berth concept, which increased berth efficiency and reduced ship turnaround times. Today, Stolthaven Terminals has a global storage capacity of cubic metres. Its strategy is based on organic growth and, once corporate debt levels have been reduced, acquisitions. EBITDA of \$111m has increased by 20% since 2015 although operating profit fell 10% to \$69m in 2019.

Location, utilisation and tank type are the critical success factors for a business that performs steadily.

However, if Stolt Tankers were not to be in the group, there is at least the risk that Stolthaven Terminals could be deprived of the base load business provided by Stolt Tankers when/if it moved into different ownership (assuming any new owners did not want to continue using Stolthaven terminals).

Were it to be a separate entity, industry commentators say that Stolthaven would undoubtedly attract interest from likes of Marquard & Bahls (owner of Oiltanking) and Vopak, the world's leading independent tank storage company with 34 million cubic metres of capacity and 47 chemical terminals. Both are moving towards storing chemicals, rather than oil products.

Other global infrastructure investors, such as fund managers and private equity firms, would also be interested.

Stolt Tank Containers was founded by Jacob Stolt-Nielsen in 1982 after the purchase of United Tank Containers, which had a fleet of 400 units. It is the long-term market leader and has a fleet of 40,513 owned and leased tank containers moving bulk-liquid chemicals, compressed gases, cryogenic cargoes and food-grade products.

Stolt Tank Containers offers a smaller lot-size alternative to the bulk liquid chemical shipments moved by Stolt Tankers' chemical parcel tankers and focuses on customers wanting door-to-door delivery and convenient storage.

In 2019, Stolt Tank Containers had \$494m of assets, an operating profit of \$56m on revenues of \$529m, and a strategy of focusing on delivering superior customer service at the lowest cost by leveraging global scale and technology to drive operational efficiencies.

Operating profit in the most

recent quarter increased by 30% to \$15.7m due to lower operating expenses, attributable to the lower freight costs resulting from having a higher proportion of intra-regional shipments. Repo costs were also lower.

Niels Stolt-Nielsen reported that 'Stolt Tank Containers has seen an increase in bookings ahead of the Chinese New Year' but this promising start will inevitably be undercut by the, as yet, unquantified impact on all trade of Covid-19 coronavirus.

Competitive advantage

The business is supported by a network of 22 owned and joint venture depots. This gives it a competitive advantage - direct control over the handling, cleaning and maintenance of its fleet, ensuring unrivalled quality, reliability and performance.

However, if Stolt Tankers is no longer part of Stolt-Nielsen, the logic of the internal integration between parcel tankers, terminals and tank containers weakens.

A separate Stolt Tank Containers entity could continue to leverage its strong cash flow and solid financial delivery. As a business, it offers steady cash flow, growth potential over a long-term horizon and a low-to-moderate level of risk.

Stolt Sea Farm - with segment assets of \$143m generating a gross profit of \$800,000 in 2019 - is a curiosity from a chemical perspective and could be retained by family stakeholders as, potentially, a dividend-earning tribute to their heritage.

Stolt-Nielsen Gas is the LPG/LNG shipping investment arm of Stolt-Nielsen Limited and immaterial.

Neil Sedaka sang that breakin' up is hard to do. For Stolt-Nielsen, it wouldn't be. But should Stolt-Nielsen be broken up and, if so, how would the future look for Stolt Tank Containers, the tank container market leader?

Industry ready for growth

The Ukrainian tank container sector is steadily developing, thanks to the recovery of the national economy from the crisis and growing demand from local chemical producers

According to a recent report prepared by Pro-Consulting, the leading Ukrainian transport consultancy, tank containers continue to be a relatively new type of transport packaging in the Ukraine.

However, in recent years, demand for them from both domestic shippers and foreign companies operating in the Ukrainian market has significantly increased and growth is continuing.

The recovery of the Ukrainian economy has led to an increase in chemical production in the country and stimulated domestic supply chains and exports. According to Pro-Consulting, in contrast to previous years, a significant part of these deliveries is currently carried out in tank containers.

According to estimates of the Ukrainian Minister of Infrastructure (a state agency in the Ukrainian government responsible for the development of tank container industry) the annual growth rate of the industry is estimated at 20%, although the local market remains relatively small in terms of both value and volume. Some estimates, made by experts at the Ministry and some leading Ukrainian chemical producers, suggest the annual volume transported in tank containers within the Ukraine – and for export – 800,000-1 million tonnes. However, the market has a significant potential for further growth due to high rates of decommissioning of old tank wagons.



Azovmash, Ukraine's largest machine-building enterprise, which may become a new centre for the building of tank containers in the country

The financial crisis in Ukraine during 2014-2017, caused by the change of power in the country and Russia's invasion, led to serious stagnation of the market and a reduction in the supplies of chemical liquid cargo from the EU to Ukraine. This was mainly due to the devaluation of the hryvna, the Ukrainian national currency, and price increases. The crisis and its consequences forced domestic consumers to switch to local producers and to reduce imports. The situation in the food bulk liquid segment is slightly better as Ukraine does not produce palm oil, orange juice, etc.

Dmitri Kamyshnikov, Vice President of tank containers of Baltica-Trans Logistics, one of the leading tank container operators in Russia and the CIS region, says

there is a growing interest by Ukrainian exporters for food grade tank containers. Ukraine is one of the world's leading manufacturers of the sunflower oil so demand for flexitanks for this product is also growing.

As in the case of neighboring Russia, up to 80% of chemical and petrochemical cargoes in Ukraine were transported in tank wagons prior to 2014-2015. This has changed in recent years due to the beginning of massive decommissioning of old tank wagons in the country, many of which were built during the Soviet era.

According to experts of the Ukrainian Ministry of Infrastructure, this has already resulted in an increase in the production of tank containers in Ukraine in recent



INTERMODAL
ASIA 2020

集装箱多式联运亚洲展

14-16 JULY 2020 | SHANGHAI | CHINA

FREE
EXHIBITION
AND CONFERENCE

14-16 JULY 2020 | SWEECC, SHANGHAI

YOUR PLATFORM IN ASIA TO MEET THE GLOBAL INTERMODAL MARKET



Bringing together professionals from the following areas:

Cold Chain Management and Storage

Container Leasing

Finance / Private Equity

Freight Forwarding / NVOCC

Rail Freight

Container Trading and Resale

Transport and Logistics

One Belt One Road

Tank and Special Containers

Shippers / Cargo Owners

Shipping Lines / Carriers

Smart Shipping

Container Manufacturers and Components

Container Repair, Modification and Conversion

Ports

Organised by



Primary Event Sponsor



Follow us on



REGISTER ONLINE TODAY
www.intermodal-asia.com

years at the expense of wagons.

In the meantime, the growing demand for tank containers in Ukraine forces leading Ukrainian machine-building enterprises, such as Azovmash to consider expanding their capacities to include tank container production instead of traditional wagons.

According to some independent Ukrainian analysts in the field of logistics and transport, Ukraine has probably the best conditions for the establishment of large-scale tank container manufacturing among all former Soviet and Eastern European states due to its Soviet legacy. During the Soviet times, Ukraine had the largest number of large machine-building enterprises compared with the other former Soviet states, including Russia.

According to Sergey Maltsev, a co-owner of Globaltrans, one of the largest transport companies in the CIS region specialising in cargo deliveries in tank containers, the growth of the demand for tank containers in Ukraine could be also explained by the recent increase of prices for tank wagons in recent years.

Maltsev claims that the cost of a tank wagon in Ukraine is currently RUB 6-8 million (\$92,000-122,000), which is a substantial sum for a Ukrainian local business.

In addition to shippers, there is also the growing demand for tank containers from local carriers. This is confirmed by Vladislav Krikly, a spokesman at the Ukrainian Minister of Infrastructure, who said that, in recent years, many of Ukraine's leading cargo carriers have expanded into tank container transportation.

The Ukrainian government has already promised to support the development of tank containers. This will involve a change of tariff policy. In recent years, this policy has been a subject of criticism from local carriers and shippers due to a lack of differentiation



*Dmitri Kamyshnikov,
Vice President of tank containers
of Baltica-Trans Logistics*

between a 20' tank container and 20' GP box container, as well as equating larger swap tanks to railway wagons.

Such a tariff policy is designed for the interests of tank wagons operators but there is a clear need to introduce a wagon-load tariff for tank container transportation in the country.

According to analysts, there is also a need to use EU practice and to increase the charge for the transportations in tank containers within the territory of Ukraine.

Local shippers and carriers also believe the government should pay more attention to the development of infrastructure of the industry. It remains weak despite some recent improvements. One of them is the increase of the number of certified washing units in the local market. In recent years, many local auto carriers have expanded their tractor fleets with specialised 30' tank trailers, which are designed for the deliveries of tank containers.

In the meantime, the Ukrainian government is aware of the existing problems and is

considering solutions. Part of these plans is creating the conditions for the further development of the infrastructure necessary for the industry, particularly terminals which are specially designed to deal with tank containers. One form of state support may involve the simplification of state regulations regarding high-risk cargo and legalizing the validity of test certificates issued by foreign registers on the territory of Ukraine.

Analysts of the Ukrainian Ministry of Infrastructure expect demand for the transportation of products in tank containers in both the Ukraine and in other CIS states to continue to grow. According to them, the current spread of the coronavirus will have a negative impact on the deliveries of traditional TEU and FEU containers, particularly by sea transport. This will force global ocean lines, particularly those operating in the Ukraine, to pay more attention to deliveries of tank containers.

One of the major problems, which may prevent a more active development of the industry, is related to the traditional conservatism of Ukrainian business and its reluctance to change.

According to analysts of the Ukrainian Ministry of Infrastructure and independent analysts in the field of logistics, for many local market players - particularly shippers and carriers - tank containers still remain a new type of packaging which is still associated with serious technical difficulties for companies.

Among the other major industry problems is the generally low demand for the transportation of chemical cargoes in the Ukraine, the lack of suitable infrastructure for dealing with tank containers and difficulties with ensuring the safety and security of the product during its transportation.

Sustainable solution

The Austria-based Gartner Group has opted to install the B200 Mouvex screw compressor of Wiegel Transport Equipment on all its silo lorries, reports Henriëtte van Norel

Annually, the Gartner Group conducts approximately 900,000 road transports by vehicles from their own fleet and 32,000 rail transports. Despite the logistical challenges which this internationally operating Austrian company faces on a daily basis, the organisation continuously strives for quality, flexibility, reliability in conjunction with an environmentally friendly policy.

In striving to minimise CO₂ emissions while seeking a responsible use of fossil fuels, a reduced fuel consumption and an even quicker delivery of liquid loads, Gartner management opted to install the B200 Mouvex screw compressor of Wiegel Transport Equipment on all its silo lorries.

In the next 20 months, Wiegel Transport Equipment will deliver 140 screw compressors to the Gartner Group. Subsequently, the screw compressors will be installed on fleet vehicles by Gartner's mechanics, who will do this following an extensive installation in-situ workshop given by mechanics of Wiegel Transport Equipment GmbH for the first vehicles.

Background

Having been in operation over 100 years, the Gartner family firm, with its head office in the Austrian Lambach, is one of the most prominent transport companies in Europe. The main core competencies are road transport, intermodal traffic and the supply



of warehouses. Additionally, the Gartner Group owns subsidiaries, sales offices and/or collaborating partner companies in Austria, Germany, Hungary, Romania, Spain, France, Belgium, the Netherlands, Greece, Czech Republic and Slovakia.

The company fleet consists of 2,000 lorries of brand names such as MAN, Mercedes-Benz, Scania, DAF and Iveco and more than 2,700 trailers. Covering 20 locations in nine countries, with 4,100 employees, the Gartner Group realised an impressive annual turnover of €541 million in the last financial year.

Thomas Arnezeder, Warehouse Manager with Gartner, explains: "For our company, the important requirements for the above-mentioned order were to achieve a substantial fuel consumption reduction as well as lower emissions of our silo lorries intended for the transport of chemical fluids. This happens

within the framework of responsible and sustainable operations endorsed by our company. Moreover, an essential requirement was that the prospective new compressors should be simple to install and easy to maintain. This technology needed to be better than any alternatives, such as pumps or rotary vane compressors."

Compressor differences

Although rotary vane compressors are usually more economical than screw compressors, they have the disadvantage of having a substantially heavier design, a lower compressed air output while requiring more installation space.

Moreover, graphite may eventually end up in the compressed air due to wear and tear. Just as rotary vane compressors, pumps are definitely not the preferred solution. Due to cross-contamination they may become damaged prematurely as



Chemical Management Resources Limited

Short-term, project-specific expertise for ISO tank container projects

- **Independent petrochemical and petrochemical supply chain expertise, focused on the rapid growth Middle East**
- **ISO tank container market research and business planning**

Independent advice on:

- **Competitive intelligence** Competitor and market analysis
- **Business development** How and where to position assets ahead of competition
- **Strategy development** How to penetrate the chemical market or grow share
- **Business plan review** Does it reflect market reality? Will it get Board approval?
- **Petrochemical training** Understanding petrochemical dynamics and product flows
- **Partner selection** Identification, screening, market reputation

Project examples:

- Commissioned by the Gulf Petrochemicals and Chemicals Association (GPCA) to produce the seminal study of the Middle East petrochemical supply chain
- Produced the world study of the tank container market and players
- Identified Middle East partners for world leading tank container operators and leasing companies
- Identified tank container acquisition targets
- Produce the quarterly 'Middle East Tank Container Market Review'

Leslie McCune, Chemical Management Resources Limited

lm@chemicalmanagement.co.uk +44 7783042664 www.chemicalmanagement.co.uk



a result of corrosion. With screw technology all of such issues may be prevented from happening." With screw compressors, rotating at the same speed in a more compact housing it is possible to realise a transmission that will produce the desired air volume. The B200 Movex screw compressor is an illustrative example. These screw compressors always provide 100% pure oil-less air.

Although Gartner had some practical experience with the Movex B200 screw compressor merely weighing 26.5 kg, they extensively tested some of these models prior to the definitive transition to screw technology.

Since the results met their expectations, Gartner management decided to equip all of their fleet's silo lorries with this fluid pumping technology.

Although the B200 may be powered by a drive shaft or a hydraulic motor, Gartner has chosen to use a direct connection to the PTO. No drive shaft is required and the compressor may directly be mounted to the power take-off. Consequently, the configuration is extremely lightweight and compact.

It can easily be installed on a lorry with a limited availability of space. Compared to a rotary vane compressor this solution saves a weight of approximately 35 kg. It saves fuel, reduces emissions and it definitely is an asset for a higher 'payload'.

More importantly, the higher compressed air output speeds up the fluid delivery compared to a rotary vane processor. This results in a time savings of 40 minutes, or a diesel fuel advantage of 3-4 litres per delivery. Annually, the conversion represents a significant savings for Gartner.

Installation

In order to shorten installation time for Gartner mechanics, Wiegel Transport Equipment



Gartner: an eye for innovation

Operating with advanced position tracking systems, Gartner has an extensive insight in the kilometres covered by their empty lorries. By limiting the percentage to a minimum, they provide a substantial contribution to the CO₂ reduction. Particularly in combination with the Movex B200 technology, one may conclude that Gartner makes a significant difference.

supplies all screw compressors with a special, custom-made bent stainless steel pressure line and a customer-specific installation kit, in a so-called 'plug-and-play' design.

Wiegel Transport Equipment produces these bent pressure lines in their shop. Since the pressure lines are seamless, no welding is required, contributing to an even shorter installation time.

Easy Maintenance

Regarding maintenance, it is interesting to mention that ex-works the B200 rear bearing block comes provided with lifetime lubrication.

Under no circumstances should the oil sump on the compressor's drive side come into contact with the product. In order to prevent this from happening, labyrinth seals have been installed, so that under all circumstances the B200 generates fully oil-less air.

Meanwhile, the first models

were successfully installed by Gartner mechanics, so these lorries are already fully operational.

Arnezeder explains: "Despite the compact design of these B200 screw compressors, they are able to effectively produce 180 cubic metres of compressed air per hour, with a 2.5 bar operational pressure while only needing to draw 200 cubic metres of air per hour.

"Until now, we are exceptionally satisfied about the results of this ingenious, Movex patented screw compressor system with its combined pressure/flow control. This is a good step on the way to a more sustainable society."





INTERNATIONAL
TANK CONTAINER ORGANISATION



ITCO

Promotes and represents tank containers as safe, cost-efficient and flexible means of transport.

In doing so, the organisation has a strong focus on enhancing technological and business developments for the sake of quality, health, safety, environment, and Corporate Responsibility in the tank container industry.

www.itco.org

THE International Trade Association for the Tank Container Industry.

- 150 Member Companies from around 30 Countries
- Representing around 90% of the Global Tank Container Capacity
- Manufacturing, Operating, Leasing, Service Providers, Inspection, Surveyors



EDUCATION
INFORMATION
COMMUNICATION
REPRESENTATION
NETWORKING

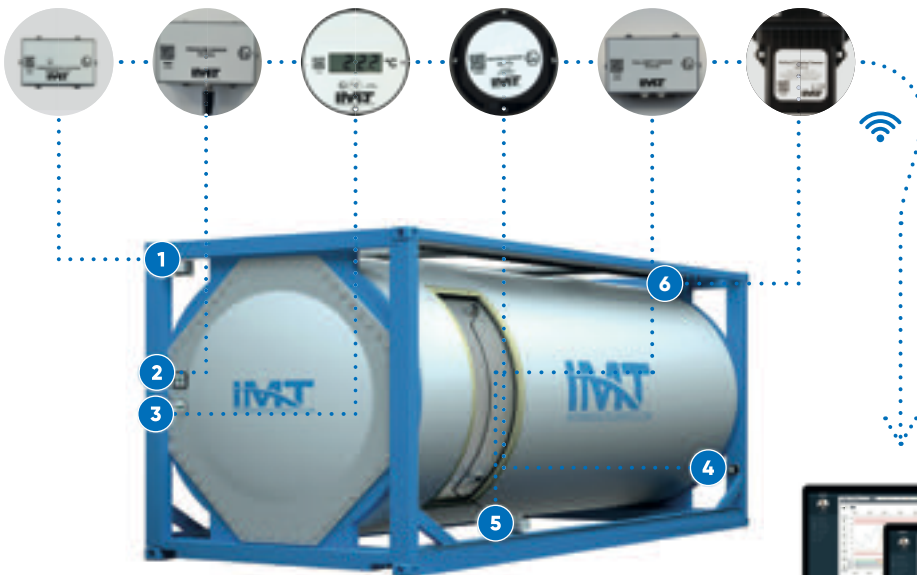
Take tank telematics to the next level

IMT is the independent telematics solution partner for the tank container and rail car industry and is the world leading telematics company. We develop and produce standard and customised industrial intelligent sensors which generate and transmit data about the tank container and its cargo to a web application or mobile app.

NT Tank, the world's second largest tank container manufacturer, chooses IMT as its partner in creating smart tanks. On all new builds NT Tank will install the IMT Pre-Kit including the digital thermometer at no extra cost.



1. Communication & Location Terminal (CLT)
2. Pressure Sensor
3. Temperature Sensor
4. Heating Sensor
5. Full-Empty Sensor
6. Heating & Cooling Terminal (HCT)



Our sensors and platform offer you better insights, enabling you to better monitor product quality and improve the safety and efficiency of the logistics process.

- ✓ Improve operating efficiencies.
- ✓ Secure quality of cargo.
- ✓ Provide track history of all relevant data of each container: location, temperature, pressure, full-empty, heating, ...

So take your tank telematics, and your business, to the next level. With IMT.



IMT
INTERMODALTELEMATICS.COM