

# Tankcontainer

## MAGAZINE

Volume 1 | Issue 4 | December 2014



**An insight into Jebel Ali,  
the Middle East's leading  
tank container port from  
DP World's Chief Operating  
Officer for the UAE,  
Mohammed Ali Ahmad**

**Also in this issue: North America Focus – Hillebrand Profile – Russia**





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# US shale gale blows in some opportunities

In this issue of *Tank Container Magazine*, we turn our attention to North America. This completes our first circumnavigation of the world's major tank container markets.

The journey started in Europe - the historical home of tank containers - and then moved on to the high growth Middle East.

Sadara, the Saudi Aramco/Dow joint venture - and the largest single-phase petrochemical project in the world - will next year begin the completion phases of its 26 production units so the specifics of its huge tank container demand are becoming clearer.

The last issue focused on Asia, where the activity centre is, unsurprisingly, China. But the North American tank container market has a different dynamic. Petrochemical activity is focused on the US Gulf Coast and the North-East. While these areas have many well-integrated and pipeline-connected petrochemical production complexes, the North America market itself has to be served by smaller bulk lot-sized transportation in the form of rail tank cars, road silo or barrel tankers and tank containers. In terms of volumes, rail is by far the dominant mode.

The lack of pipeline capacity and infrastructure in shale gas and shale oil regions of the US has led to the wholesale adoption of rail tank cars to move crude oil and volatile products from the major shale basins of Marcellus, Bakken and Permian to the ports and refineries of the US Gulf Coast.

55% of all US shale gas reserves are found in the Marcellus gas basin in the North-East. The field has a break-even gas price of just over \$3/million Btu (British thermal units), compared with the 18-month average for the benchmark Henry Hub spot price of \$4/million Btu.

Rail tank cars are one of the little-known winners of the North America energy boom. Waiting lists for rail tank cars from \$6 billion market capitalisation Dallas-based Trinity Industries stretch to two years, with smaller rivals American Railcar Industries and Warren Buffet's Union Tank Car reporting surging revenues. Trinity will be the major beneficiary as old DOT-111 rail car designs are phased out and replaced by new designs meeting tougher safety regulations. DOT-111 designs have been shown to be vulnerable to puncture and leakage and, as a result, will be phased out by May 2017. Trinity's leasing business helps to smooth its otherwise lumpy earnings from rail tank car manufacturing.

And tank containers are benefiting. As we describe in this issue, 55 shale gas wells are drilled every day in North America, and 2,000,000 shale gas and oil wells have already been 'fracked' in the US. The fracking process requires large quantities of sand, water and chemicals to be injected into the shale rock formations. The liquid chemicals are often brought onsite in tank containers. Barrel or silo road tankers can be used, but wells are often drilled

at the end of dirt tracks or in open terrain that is too rough for road tankers. Tank containers are often the only alternative.

Estimates of tank container usage are difficult to quantify, but a close reading of the environment impact statements of the numerous well developments, together with comments from the upstream drilling companies themselves, suggests that there are over 20,000 shale-related tank container movements each year, approximately 15% of the entire annual global tank container movements of the leading global tank container operator.

Gas is the big 'play' in the US. Exports of LPG (which is mainly propane in the US) nearly doubled from 6 million tonnes in 2012 to 11 million tonnes in 2013, due to accelerating shale gas extraction. 45-50 additional Very Large Gas Carriers (LVGCs) are needed for US exports alone, so it is no surprise that the gas shipping market is in the middle of an investment frenzy.

Tank containers are also enjoying their place in the sun in the Caribbean market. Morgan Stanley set up Wentworth Gas Marketing to sell compressed natural gas to those Caribbean countries having free-trade agreements with the US. The company planned to load and export 270 containers a day from the US to Caribbean markets. Morgan Stanley and Goldman Sachs are the only two Wall Street banks which enjoy 'grandfather' status, courtesy of the Gramm-Leach-Bliley Act. As a result, these banks - and only these banks - can own and run infrastructure for the manufacture, storage and operation of physical commodities.

The US gas export trade is being liberalised. The Federal Energy Regulatory Commission recently clarified the position on the use of non-pipeline modes of transportation for LNG deliveries from the US mainland to US territories. Pivotal LNG, a subsidiary of AGL Resources, has successfully applied for small-scale export licences from the US Department of Energy, and can now load LNG into tank containers for delivery to Puerto Rico in the Caribbean. The use of LNG delivered in tank containers helps reduce the territory's dependency on other petroleum products.

Meanwhile, any visitor to Houston can see that the city is booming, with infrastructure build-out along the Houston Ship Canal - from the Beltway to City docks. Construction fills the horizon with 50 new ship berths, petrochemical infrastructure being expanded around the tank container terminal and storage facilities beside Carpenters Bayou and huge investments in the petrochemical complexes in Baytown. Good for petrochemical production, good for the demand for assets to move liquid petrochemicals and good for tank containers.

Leslie McCune  
Editor



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# Contamination is the primary cause of tank container claims

Leading freight transport insurer TT Club reveals detailed results of its claims survey highlighting tank container incidents:

contamination accounts for nearly half with damage to tanks adding another third

Speaking at the Asia Tank Container Organization's General Meeting (@tco Asia) in Shanghai, TT Club's Regional Director, Asia-Pacific Phillip Emmanuel outlined the major risk exposures facing the tank container industry.

Based on an extensive analysis of the Club's claims experience resulting from incidents involving tank containers, Emmanuel pinpointed contamination as the leading danger, accounting for over 46% of the volume of incidents on TT's books in the last nine years.

Revealing the more detailed dangers to the Conference delegates Emmanuel explained, "Contamination can result from any number of factors. However, the incompatibility of the tank itself with the cargo concerned is the most common cause. This is often the result of insufficient cleaning, particularly of the discharge valves and baffle plates, following the carriage of the previous cargo.

Corroded or worn man lid seals, and issues occurring either at the origin land tank or during the loading procedure are also common contributory factors."

Emmanuel provided valuable insight into the nature of these incidents and the best forms of damage limitation and risk avoidance.

"In terms of impact damage, most tanks are built to highly robust standards and the incidence of

leaks from such accidents is low. Damaged or failure of valves, seals a gaskets are much more common in occurrence," he reported.

Emmanuel went on to define the chief safety precautions recommended to avoid such risks:

- Comprehensively interrogate and validate the Material Safety Data Sheet to ensure the tank and its components can fulfil all special requirements demanded by the cargo and the shipper

- Perform regular outer shell and insulation inspections

- Fit man lid gaskets and seals correctly and ensure the appropriate tightening of swing bolts on man lids

- Assess the most appropriate selection of gaskets and seals for each cargo. Particularly invasive cargoes can simply destroy any exposed area of the gasket and/or seal.

"When there is a failure in any of the above control factors, something as simple as a change in ambient temperature through the supply chain can result in a sufficient build in pressure to cause a leak," emphasised Emmanuel.

Looking to the future, Emmanuel concluded by outlining the priorities that TT Club consider noteworthy in bringing down both the cost and danger of tank container operation. There needs to be wider industry analysis of incidents and accompanied by knowledge sharing, so that lessons can be widely learned.

There should be a continuous review and identification of risks together with greater transparency within the supply chain, as both its complexity increases and

the nature of its environment evolves. Finally, there must be a greater emphasis on training.

## Eurotainer selects APMT in Latin Am

Eurotainer US, Inc. has selected APM Terminals as the exclusive agent for sales and marketing of the company's tank container leasing services in Chile and Bolivia. APM Terminals has a solid business foundation in the region serving the container industry through equipment lifecycle management, transportation services and cargo support. APM Terminals has an experienced sales and customer service team with established connections to the chemical, mining, agriculture, energy, food & beverage industries that make up the largest target markets for Eurotainer.

For the last 30 years, Eurotainer has been a worldwide leader of the Tank Container leasing industry, servicing a wide range of customers from diverse industries. The Eurotainer fleet encompasses 29,000 tank containers in 150 types and sizes. The company's client base is global with operations in the Americas, Europe and Asia Pacific.

APM Terminals works with shipping lines, importers/exporters, governments, business leaders and the entire supply chain to provide the essential port infrastructure that builds business and creates jobs for local economies. The company's Global Terminal Network features 66 ports in 39 countries, 7 new terminal projects, 16 port expansion programs, along with 165 Inland Services locations in 47 countries.

## Quala breaks ground on Savannah terminal

Fulfilling the needs for a terminal in Savannah, Georgia, Quala, the US based cleaning and bulk transport company announced they will be breaking ground for their new state of the art facility in Savannah Georgia.

The total area will cover a spacious 9.67 acres, and have a modern 36,290 sq. ft. building. This landmark achievement represents a bold new direction for the Company, and allows Quala to exhibit its strengths as industry leader with continued expansion beyond tank wash capabilities, and into new offerings for the bulk transportation industry.

"We're excited to enter the Savannah market and service the growing needs of our valued customers. We couldn't be more pleased with the design of the facility which enables Quala to offer multiple tank trailer and ISO container services, including chemical and food grade cleaning capabilities, maintenance, repairs and inspections to name a few.



Along with our many capabilities, we will also be offering first class office space and driver amenities," says Terry O'Brien, President.

As with every Quala location throughout the U.S. and Canada, quality, safety and the environment are paramount. With this new facility in Savannah, Quala continues this commitment, and will strive to set new standards.

Opening March, 2015, Quala's new and exciting facility will house four modern maintenance bays, two sophisticated food grade bays, four technologically advanced, environmentally sound, chemical cleaning bays, 6,950 sq. ft. of offices (excluding Quala offices or trucker's area) and 2,152 sq. ft. for contemporary trucker's lounge, break room and rest rooms.

## Interbulk stays bullish in a tougher market

InterBulk Group plc a leading provider of intermodal logistics solutions to the chemical, polymer, food and mineral industries, provided an update on trading for the year ending 30 September 2014.

In its interim results for the six months ended 31 March 2014, released on 25 June 2014, InterBulk announced that revenues in the first half had been 2% lower than in the same period of the previous financial year, but that profit before tax (before intangible amortisation and exceptional items) was only slightly behind the comparable period. Since then, the trend of improving margins in the Group's Liquid

Bulk division with its global reach, has continued but activity levels in the European-based Dry Bulk division have been disappointing with further weakening.

The Board still expects to report a stronger performance in the second half of this year, but that profit before tax (before intangible amortisation and exceptional items) for the year ending 30 September 2014 is now expected to be at a level consistent with last year and, therefore, below market expectations.

"While the overheads of the Dry Bulk division have been reduced substantially during the year with cost reductions achieved in procurement and through operational efficiency measures, we have not been able to compensate fully for either the

direct impact of further reductions in transportation activity levels from the rationalisation and closures of European polymer plants nor the consequential impact on our fleet balance," said the company.

"The Group's cost base remains under constant review but we are also adjusting our business mix to ensure a focus on core transportation hubs where margin quality and fast turnaround of equipment is more secure."

The performance of the Liquid Bulk tank container division is encouraging. There has been an improvement in margin quality as well as an encouraging recovery in temporary storage income after the unexpected reduction during the first quarter of the financial year.

"The global reach of the Group's tank container activities enables us



## A smooth debut for Kube & Kubenz

Kube & Kubenz has completed the first trial shipment by tank container from Cologne to Turkey. The company says it was the first freight forwarder to try out the new route, which is operated by Kombiverkehr. Click here to read more.

Kube & Kubenz has completed the first trial shipment by tank container from Cologne to Turkey. The company says it was the first freight forwarder to try out the new route, which is operated by Kombiverkehr. The shipment, on behalf of a major German chemical manufacturer, was loaded in Dormagen and reached Çesme by way of Trieste.

"The transport operation went very smoothly and the container was delivered on time," says Michael Kubenz, managing director of Kube & Kubenz GmbH, adding: "We're able to save time and money by using the direct sea route from Trieste to Çesme, as this significantly



reduces the overland route by truck. This provides enormous benefits for our customers and also protects the environment, because the CO2 emissions are much lower."

After the filling operation in Dormagen, the container made its way by train from the terminal in Cologne-Eifeltor to Trieste on the Italian coast. There, it was loaded onto a truck chassis before it travelled to Çesme in the west of Turkey by sea. A truck picked up the tank container with its volume of 30 m<sup>3</sup> in Çesme and delivered it to Izmir, 85 km away. There, it passed through

customs and was then dispatched for the final leg of its journey to the consignee in Manisa.

The direct sea route from Trieste in Italy to Çesme is set to become a new element in the Turkish services offered by Kombiverkehr, Europe's largest intermodal traffic operator, in the near future. The company already offers services to the ports of Haydarpasa, Pendik and Mersin. It provides direct links to and from Trieste from Frankfurt, Ludwigshafen and Munich using shuttle trains – other sites like Cologne act as bases for gateway traffic.

to capture a share of the chemical sector expansion in Asia and the Americas, which provides us with a growth platform to build on."

The Group expects to announce its final results for the year ending 30 September 2014 in mid-December 2014.

Loek Kullberg, Chief Executive, said: "There is no doubt that trading conditions, especially in the Dry Bulk European market are tough, but our strong focus on customer service levels and cost leadership puts us in a position to maintain our strong market share.

"Renewed focus on business selection is critical to ensure optimisation of our network in core regions and greater security on margin quality. This along with the internal reorganisation which took place earlier in the year will

put us in a stronger position as we enter the new financial year to see progress in our financial performance in 2015."

## Industry veteran is new Agility CEO

Agility, a leading global logistics provider, has appointed Soren Poulsen as CEO for Greater China Area (GCA). In this role, Poulsen will be responsible for leading Agility's Global Integrated Logistics business in China, Hong Kong and Taiwan.

Soren joins Agility with more than 25 years of experience in the logistics industry. He has extensive experience and knowledge in particular in the China market, having spent more than 10 years of his career in management positions in the country. At the beginning



of his tenure in China, Soren managed air freight operations out of Shanghai and North China, while the past six years focused on general management in South China and development of major international and Chinese customers. During Soren's more

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than 13 years in Asia, he also spent time in India and Singapore.

"We are very excited about the appointment of Soren as the CEO of Greater China Area. The GCA is vital to Agility, and China in particular continues to offer tremendous growth opportunities, with Transport Intelligence forecasting CAGR of 13.3% from 2013-2017 for China's freight forwarding market," said Chris Price, CEO, Agility Asia Pacific. "We are confident that his solid expertise in the business and strong understanding of Asia will help drive our strategy and grow our business in GCA."

Prior to joining Agility, Poulsen was the Managing Director for DB Schenker Hong Kong and South China. He was previously the Vice President of Airfreight for Asia Pacific in Schenker and has also held various management positions at Kuehne + Nagel and Panalpina.

A native of Copenhagen, Denmark Poulsen is a graduate from Maersk Shipping Academy and will be based in Hong Kong.

## Eurotainer supports New York Fire Department training

On December 19th, 2013, two tank containers arrived at the New York Fire Department (FDNY) Training Academy on Randall's Island in New York City. The two high pressure gas tanks were donated by Eurotainer to help the FDNY train their personnel on emergency management procedures onboard ships.

The Academy is focused on training probationary firefighters that have just joined the department and providing firefighting training for other fire departments in the region.

New York Harbor is one of the busiest in the world. Tanker ships, barges, tug boats, cruise ships, ferries, container ships and other



vessels are constantly moving in and out of the harbor. In total, New York Harbor encompasses 520 miles (836 km) of coastline that includes many rivers, channels and islands.

The FDNY realized that they need to prepare their firefighters for all kinds of emergencies, including fires, on vessels. Fighting fires on board ships is very different than on land. Shipboard fires pose unique challenges to firefighters because of the layout, restricted maneuverability of the closed quarters, ships' crew responsibilities and water supply challenges, as well as potential hazardous materials (Haz-Mat) situations – all factors for which firefighters must be prepared in advance to handle. To meet this need the FDNY commissioned the construction of a Shipboard Firefighting Simulator. This model of a ship, built on the FDNY Training Academy grounds, is four stories high and 132 feet (40 meters) long. It was constructed to re-create the treacherous conditions aboard a flaming and in distress vessel. The total cost of the simulator was US\$3.3 million and was funded through the Federal Emergency Management Agency's Port Security Grant Program.

Within the ship the Academy can simulate engine room fires, on deck fires, electrical fires and galley (kitchen) fires. Smoke-filled rooms and temperatures up to 900F

FDNY Commissioner Daniel Nigro

(482 C) can be created. Now with the edition of the tank containers from Eurotainer the FDNY's Haz-Mat Battalion can practice emergency procedures on gas tank containers. The FDNY realized that practicing the proper procedures for emergencies involving a tank container is a critical part of the overall shipboard training program.

In July 2014, representatives of Eurotainer toured the entire Training Academy. They were among the first civilians to tour the simulator and watch the members of the Fire Department perform training exercises onboard.

In August 2014, the tanks were loaded onboard and Eurotainer was invited back for the christening of the ship. At the christening ceremony many FDNY senior officers, New York City politicians, representatives from the U.S. Homeland Security Department and the United States Coast Guard expressed their appreciation to Eurotainer for the donation of the two tank containers. "Everything about this facility is truly world class," Deputy Commander of the U.S. Coast Guard, Sector New York, Capt. Jeffery Dixon said. "Having the right equipment and right training makes all the difference in the world."

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## HOYER is taking a long-term view

Hamburg logistics company HOYER reports successful first half year results for 2014. The operating earnings (EBITDA) increased by 18% year on year as turnover remained stable.

Good results from the contract logistics area are partly responsible for the positive development in the first six months of 2014. The Petrolog and Foodlog business units made a substantial contribution, while the Gaslog business unit also increased its level of activity and resultant earnings compared with 2013.

The Supply Chain Solutions (SCS) area, which is part of the Techlog business unit, recently notched up a particular success by winning the bid to provide plant logistics for a major chemical company. This contract involves a complex outsourcing operation. SCS is pursuing further expansion projects in the Middle East and China.

"Our long-term strategy of expanding intermodal transport internationally and globally continues to hold good," says Ortwin Nast, Chief Executive Officer of the HOYER Group. "We will continue to invest in developing terminals in strategically important regions such as China and Europe and to expand our fleet further."

"Despite a slight economic recovery, the logistics industry is still under a lot of pressure as far as prices and margins are concerned," adds Gerd Peters, Chief Financial Officer of the HOYER Group. "We will rise to the challenges involved and we remain optimistic about the second half of 2014."

Meanwhile, Hoyer has just introduced a tank container specially built to help train staff. The three-compartment swap body tank is 7.15m long and will be used at training courses, presentations and trade fairs.



Hoyer has specially constructed the training container to demonstrate the technology built into a modern tank. The container is used as a centrepiece in practical on-the-job training programmes which complement the theoretical training received by employees in the classroom. The training container is also being made available to customers and public bodies such as the police, fire brigade and inspection institutes on information days.

Hoyer was supported throughout the development phase by Lindenau Full Tank Services (LFTS) and cotac in particular. The container took some five months to build at a cost of €50,000. Currently based at the company's Dormagen location, the container will later go to the Rotterdam subsidiary.

## US export volumes the star for Stolt in Q3

Stolt Tank Containers reports operating revenue of \$137.3m for the three months to end-August, down from \$139.6m in the prior quarter in what is usually a seasonally quiet period. Shipments were down by 4.3% but the impact of that decline was mitigated by an increase in US export volumes to both Asia and Europe, and in a rise in door-to-door shipments, which earn better rates.

Revenue per shipment was up slightly in the quarter, consistent with the shift in shipment mix. Demurrage revenue was also up in the quarter, as customers held on to tanks longer. Utilisation slipped

to 75.3% from 76.6%, in line with the decrease in shipments.

The number of tanks in the fleet increased during the three-month period from 32,528 to 33,137.

## Pivotal to deliver LNG to Carib Energy

Pivotal LNG has announced a long-term agreement to sell liquefied natural gas (LNG) to Crowley Maritime Corp subsidiary Carib Energy LLC for use by Carib's customers in Puerto Rico.

Stephen Cittadine, president of Pivotal, said: "Pivotal continues to expand its LNG portfolio, thereby reducing dependency on other petroleum products used by Puerto Rico as well as other U.S. territories."

Recently the Federal Energy Regulatory Commission (FERC) issued an order providing clarity to Pivotal regarding the use of non-pipeline modes of transportation for delivery of LNG from the U.S. mainland to U.S. territories without becoming subject to FERC's jurisdiction. The FERC order confirms that Pivotal can sell LNG designated to be transported by waterborne vessel to all U.S. territories subject to the order's conditions. To make this possible, Pivotal will load LNG onto international shipping organization (ISO) containers. The ISO containers will then be transported via truck to Crowley's waterborne vessels in Jacksonville, Fla., and then delivered to Carib's customers in Puerto Rico.

"We are certainly pleased to have Pivotal provide LNG for our markets in Puerto Rico," said Crowley Vice President Greg Buffington. "Our LNG supply agreement with Pivotal, coupled with Crowley's recent success of obtaining a small-scale export license from the Department of Energy, allows us to meet the current and future energy needs of our customers in the regions where we do business."



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## Lehnkering expands its specialist fleet

"There's a relatively large number of standard tank containers in the market, which is why we've deliberately decided to expand our fleet of specialist tanks for use in the special chemicals sector," Steffen Bauer, Managing Director of Lehnkering Chemical Transport GmbH, explains.

As far as the technical specifications are concerned, LCT is taking into account customer's individual requirements. For example, the fleet expansion programme includes tank containers with a rubberised inner coating, V4A stainless steel tanks, which resist corrosion and acids, and customised special designs. "The new tank containers enable us to strengthen our position as an intermodal operator in the highly specialist chemicals sector," he adds.

The first insulated swap body tank containers with surge plates and a load capacity of 30 m<sup>3</sup> have already been supplied. In addition to transport operations, the units are also ideally suitable for use as buffer storage facilities for production processes in the chemical industry. The high-quality, non-rust and acid-resistant V4A stainless steel makes it possible to use the tanks for a wide range of liquid chemicals.

Chemical customers depend on modern and safe equipment and high-quality apparatus is particularly necessary when transporting sensitive and dangerous goods. In the light of this, LCT deliberately decided to equip all the tank containers to make them what are known as "ground-operated" units; this significantly increases the safety levels for drivers during loading and unloading operations.

The new stackable tank containers made of anti-corrosion and acid-resistant V4A stainless steel are swap bodies with a load capacity



Agility was named "Logistics Company of the Year" at the Arabian Business Achievement Awards 2014, organized by the Arabian Business publication in the Middle East.

Muhannad Al Omari, Agility's Director of Sales for Kuwait, (pictured right) accepted the award at a ceremony in Kuwait City.

"It's great to be recognized as a logistics leader in Kuwait, especially because Agility got its start in this country," said Ali Mikail, Senior Vice President, Agility Kuwait and Levant. "The award reaffirms our commitment to providing the best service to our customers. It is dedicated to our employees whose efforts and hard work make such recognition possible."

of 30 cubic metres. Thanks to their insulation, they are designed for use in operating temperatures ranging between -40 and +130 °C. Three surge plates minimise any movement of liquids within the tank. The operating elements are arranged practically at the bottom. The driver does not have to operate the tank at the top dome covers when loading and unloading. An additional device for standpipe unloading also enables greater variation in handling. Aluminium chequered plate makes the platform non-slip and therefore reduces the potential for any accidents for the operating personnel. The units weigh 4.04 tonnes when empty and their total permissible weight is 36 tonnes. Van Hool in Belgium is constructing the units on order and they are being delivered at the moment.

## Hüni and Van Loon join forces

Rising demand for high-quality coating repairs for tank containers in the Benelux area has led to a co-operation between coating specialist Hüni+co of Friedrichshafen (Germany) and Antwerp-based tank container service provider Group Van Loon.

With the global growth of the tank container industry, demand for specialised equipment has risen in a significant way. More and more coated tanks (mainly for corrosion protection or anti-stick applications) have entered the market, and with this the demand for quality maintenance has grown.

"A perfect application of any chosen coating system is the base for a long-lasting protection of the equipment", said Peter Hüni (managing director at Hüni+co).

"But also quality maintenance which includes good cleaning procedures and repairs performed to the best practices available are the key to coating success", he continues.

Gas Equipment Testing and Services (GETS), a subsidiary of Group Van Loon offers services for specialised tank container equipment (amongst others gas and cryogenic tank containers).

"Adding coating repairs to our range of services was a logical next step in enlarging our service portfolio," said Günther Van Loon (Group Van Loon CEO).

"There is a clear and present demand for these services in our region, but we did not want to enter the market without being able to offer the best techniques, knowledge and quality to the market place."

GETS staff have been trained by Hüni and GETS has acquired the technical means, as well as a dedicated workshop for coating repairs in order to guarantee high capacity and service levels.



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Leslie McCune, Chemical Management Resources Limited

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## Stubbe can manage better with DEPOT

A brand new DEPOT Software module has been released at Stubbe Logistics B.V. With their new depot management system this company based in Gouda, The Netherlands, is the first to use the new Planning & Transport module.

Offering their customer a full-service logistics packages, the transport company said: "All our data in just one system, that's the most important reason for us to use this solution. All of our activities can be managed within the system. We only have to enter data into the system once to start using it for all departments and services. This way everyone is using the same information."

DEPOT Software is a full-service depot management system allowing container depot and terminals to manage all of their processes and activities in one system. The new module supports companies with their fleet management, planning, price agreements, declarations, calculations and more.

## Two more decades for Rotterdam rail facility

The port of Rotterdam has granted the RSC Rotterdam rail terminal a new 20-year lease. At the same time, the facility's ownership has been broadened, with DB Schenker Rail now holding 51% of shares; the remaining 49% is split between Bertschi, Hoyer and Hupac, although the terminal will continue to operate as a neutral facility.

"Modern cargo handling centres like the RSC Rotterdam literally form the hub between maritime and continental intermodal transport flows," says Axel Marschal, board member of DB Schenker Rail.

"The RSC is now positioned more broadly and will play an even greater role in the port of Rotterdam's growth plans."



Stubbe Logistics is the first company to use the new planning module

"The expertise of the new shareholders will provide an impetus for further growth of the cargo handling operations in maritime and continental rail transport.

"This is necessary for our competitive position because many growth regions in the hinterland are geared strongly towards rail transport," adds Emile Hoogsteden, director of containers, breakbulk and logistics at the Port of Rotterdam Authority.

## ITCO board re-elects President Heike



The ITCO board of directors have re-elected Heike Clausen as its President for 2015/2016.

Her current presidency runs until the

end of 2014, so the next two-year term will last until end-2016.

In addition, the board has elected Jochen Köppen (currently Chairman of the Tank Service

Providers Division) to be the next ITCO Vice President, commencing 1 January 2015.

The directors thanked Ms Clausen for the progress that the organisation has made during the past two years. In particular, they highlighted the work that she has done to provide guidance, support and transparency to ITCO projects.

Ms Clausen is the managing director of VOTG Tanktainer, based in Hamburg. Mr Köppen is managing director of tank container service provider Köppen GmbH, based in Duisburg, Germany.

## Pelican gets measure of tank containers

International tank component manufacturer Pelican Worldwide has introduced an ultra-sonic thickness gauge for measuring tank container thickness.

"This device is suitable to measure thickness of the tank container wall to prevent leakages and damages," says Pelican.

"The ultra-sonic thickness gauge is easy to operate, and it will be delivered including protecting case and silicone gel."

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# Geared for growth

**Editor Leslie McCune gains an insight into Jebel Ali, the Middle East's leading tank container port, from Mohammed Ali Ahmad, DP World's Chief Operating Officer for the UAE Region**



In the world of ports, location and scale matters. But those features alone will not create a world-leading port. To attract shipping lines – a port's primary objective – they also need to demonstrate operational efficiency, connectivity and the support of, and synergy with, their so-called hinterland 'eco-system'.

Inevitably, the large global hubs for tank container traffic are centred on those ports having these capabilities, and which are located close to world-scale petrochemical production facilities.

No surprises therefore that the global tank container hubs are based around the major ports and Houston, Rotterdam, Singapore and Jebel Ali in the UAE (United Arab Emirates). All four ports at these locations act as critical enablers of petrochemical trade, at a time when chemical trade is increasing.

As Stephen Pryor, the President of ExxonMobil Chemical said in March 2014: "Ten years ago, the volume of chemicals traded

between regions was 5% of global production capacity. Today, it has grown to 10%. By 2020, it will be nearly 20% of production capacity."

Inter-regional trade is therefore being magnified by the combination of two mutually reinforcing trends: an increase in the volume of global petrochemical production; and an increase in the share of global petrochemical production that is being traded between the major regions of the world. Good for ports, good for chemical shipping, good for bulk liquid and polymer storage providers, and good for tank containers.

Jebel Ali port in the UAE is DP World's flagship facility. The World Economic Forum cites the UAE as the 12th most competitive nation globally for 2014-2015, a jump of seven ranks from 2013.

The most recent ranking of 144 countries by the World Economic Forum puts the UAE ahead of countries such as South Korea,

Canada and Denmark and places it as the clear leader among the MENA (Middle East and North African) group of countries.

The UAE tops the global rankings for low inflation and quality of roads, ranks it second for the effectiveness of government spending and ranks it third in terms of absence of government bureaucracy.

Importantly for those involved in the petrochemical sector, it is ranked as having the third best port infrastructure in the world and the Dubai Customs' Mirsal 2 system – which clears and releases 87% of non-risky consignments within just two minutes – has helped make UAE the third-best country in the world in terms of the efficiency of its customs processes.

China was Dubai's top foreign trade partner in the first six months of 2014, followed by India, the US and Saudi Arabia.

Much of the UAE's trade flowed through DP World's terminals in

Jebel Ali port, Dubai. DP World is one of the world's largest marine terminal operators with more than 65 terminals, including new developments under way in India, Africa, Europe and the Middle East. In the UAE, DP World manages and operates Jebel Ali, Mina Rashid, Mina Al Hamriya and Fujairah Container Terminal. Jebel Ali port is one of the leading marine hubs in the world and the only port outside the Far East to make it into the latest Top 10 list of the world's largest ports.

Behind the port lies Jebel Ali Free Zone. DP World recently announced it is to acquire it and delist from the London Stock Exchange. DP World shares have been listed on the NASDAQ Dubai since 2007 and in June 2011 the company's shares were dual-listed on the London Stock Exchange.

DP World said it will acquire Economic Zones World FZE from Port and Free Zone World FZE for \$2.6 billion and assume \$860 million of Economic Zones World debt. Economic Zones World provides industrial and logistics infrastructure through five business units, including Jebel Ali Free Zone FZE (JAFZ).

Jebel Ali Free Zone, Economic Zones World's primary business unit, represented 97% of revenue and operating profit in 2013 and is a 57sq km commercial and industrial logistics park adjacent to Jebel Ali port in Dubai. The free zone is an important supply chain component for DP World's customers at the port and is run by Jebel Ali Free Zone Authority (JAFZA).

The deal is expected to close in the second quarter of 2015, and may prove to be the business model for more ports and their associated hinterland business zones around the world.

DP World said it wanted to guard against the potential conflict of interest that could arise in the unlikely event of a third party



Mohammed Ali Ahmed, the Chief Operating Officer for the UAE region of DP World

acquiring ownership of JAFZ, and to co-ordinate planned expansion between the two entities. The potential exists to double capacity at Jebel Ali Port in line with market demand.

Together the port and the free zone generate 20% of Dubai's GDP. This is expected to increase as international businesses based there take advantage of the developing sea-air logistics corridor with Al Maktoum International Airport at Dubai World Central.

Laying out the scale of DP World's operations at Jebel Ali port, Mohammed Ali Ahmed, Chief Operating Officer for the UAE region of DP World, says: "DP World's Jebel Ali terminal handled 13.6 million TEU in 2013 and can handle ten of the world's largest 18,000 TEU container vessels simultaneously, with its new Terminal 3 fully operational next year. The port is fitted with tandem lift gantry cranes – a joint innovation between DP World and the crane manufacturer – and there are more than 90 weekly sailings to over 140 ports worldwide."

Technology is a key enabler in the port, with His Highness Sheikh Mohammed bin Rashid Al

Maktoum, UAE Vice-President, Prime Minister and ruler of Dubai, strongly advocating and supporting his vision of Dubai becoming the smartest city in the world.

Jebel Ali Port features a number of technology-driven performance accelerators, such as automated gate systems, RFID for hauliers, container tracking to enable 20,000 truck movements each day and DP World's online business portal, Dubai Trade, offering a suite of over 200 services, with the key clearance processes now being accessible on a smart phone.

The port regularly benchmarks itself against its global peer group.

DP World, UAE Region, was the 'Best Performing Company in the UAE' in the 2013 Mohammed Bin Rashid Al Maktoum Business Awards and was voted the Middle East's best seaport for the 19th consecutive year.

Mohammed Ali Ahmed adds: "Jebel Ali Port has three container terminals. Once fully operational next year, the new Terminal 3 brings the total capacity at Jebel Ali to 19 million TEU. There are 26 berths with an additional three berths under development. There will be 97 cranes in the port by the end of 2015 – including those from Shanghai Zhenhua Heavy Industry (ZPMC) which are among the largest in the world.

"The port also features over 1.4 million square metres of storage for general cargo, a container freight station, cold store, cold store and tank terminal with 11 berths for petroleum and petrochemical products. Terminal 3 will be the world's largest semi-automated facility, with 19 automated quay cranes and 50 automated rail-mounted gantry cranes".

A trip through the six-high stacks of tank containers at Jebel Ali is a Lilliputian experience, but the port – despite its industrial environment – is a tribute to human ingenuity and management efficiency. Industry sources estimate





that up to 30,000 tank containers transit the port each year.

Duisport Consult recently assessed Jebel Ali's rail needs. According to Mohammed Ali Ahmed: "The study assessed the rail connectivity of the port, which will feature an inland container depot and rail terminal within the port".

Etihad Rail is the master developer and operator of the UAE's national freight and passenger rail network. The first phase of the UAE's rail system is operational and the second phase is planned to be completed in 2019 and this will include the Jebel Ali Port connections.

Tank container operators Hoyer, Bertschi and Newport are among companies which have Memoranda of Understanding with Etihad Rail, enabling them to adopt rail as a transport solution for their logistics and shipping services in the region. Hoyer has been a partner of Etihad Rail's UAE advisory panel since 2011.

Mohammed Ali Ahmed described how shipping lines in the same shipping alliance were allocated berths in the same terminal at Jebel Ali port to improve efficiency, with only a limited need to shuttle

container by truck between the three terminals. The numbers would be so small as to make shuttling by rail unnecessary.

The port handles bulk and packaged polymers produced by Borouge at Ruwais in Abu Dhabi, the world's largest single-site polyolefins producer where the Borouge 3 expansion will be combined polyethylene and polypropylene capacity to 4.5 million tonnes a year.

Although the 2.5 million tonnes-a-year Borouge 3 expansion has been producing on-specification ethylene since the beginning of June, full production is only expected at the end of 2015 because Borouge's source of feedstock gas is restricted due to GASCO, the ADNOC subsidiary, having a major turnaround of all five of its gas trains at Habshan, Abu Dhabi.

Beyond Jebel Ali Port, the essential tank container cleaning capabilities are being expanded. Joint Tank Services, the tank cleaning depot jointly owned by KTS (Kano Terminal Services), Stolt-Nielsen and East Africa-based Prime Fuels, officially opened a 10,000 square metre expansion on 9 January 2013, bringing its

footprint to 30,000 square metres.

Other companies offer dangerous goods storage. RSA Logistics announced on 14 May 2013 a 50:50 joint venture with Talke. For Talke Group, the logistics complex under construction in Dubai World Central is the latest expansion of its presence in the Middle East, joining locations already operational in Saudi Arabia, Qatar, Oman and Bahrain.

The hazardous materials storage facility planned by the partners offers more than 19,000 pallet spaces.

In 2015, Talke will open its tank container cleaning station and depot in Jebel Ali, bringing its European tank container cleaning technology with it and creating depot space for laden tank containers.

Despite the burgeoning port and material handling facilities for petrochemicals further up the Arabian Gulf, Jebel Ali will continue to be an essential lynch pin for the petrochemical supply chain in the Middle East, and a critical hub and transshipment location for Europe-Asia trades.

The confidence of Mohammed Ali Ahmed is well-founded.

# Quenching the world thirst for US drinks

**Drinks logistics specialist JF Hillebrand is seeing more of its ever-expanding range of products moving in tank containers rather than bottles, writes James Graham**

The US is a melting pot of wines and spirits. It is the fourth largest wine producing country in the world and the sixth largest exporter by volume. California accounts for 90% of US wine production and is home to some of the world's largest and most well-known wine producers, as well as countless growers active on a very small scale.

As the wine and spirit market becomes increasingly international, the US has also become one of the largest importers of wines and spirits, making it a key export destination for every wine and spirit producing country in the world.

JF Hillebrand USA, part of the Mainz, Germany-based global freight forwarding group JF Hillebrand, is headquartered in Rahway, New Jersey. The office managing tank containers for both Canada and USA is based out of Montreal while the company has depots as close to the loading locations as possible. To avoid contamination from chemicals and/or other food products, JF Hillebrand's steel tanks are dedicated solely to the shipment of wines and spirits.

The company handles both domestic and international import and export beverage logistics involving over 90 countries worldwide. The division has branch

offices in the heart of California Napa Valley wine country and in Hollywood, Florida near Miami which serves the US, Caribbean and Central American markets.

Clever planning, perhaps as important as the global thirst for US alcohol, mean that less than 10% of JF Hillebrand USA's 700 tank containers are ever moved empty, notes a company spokesman.

He says: "Less than 10% of our global moves are empty legs. These are being reduced by the development of new business."

The company has a preferred manufacturer of tank containers. And, perhaps surprisingly, it is not North American. The company chooses Port Elizabeth, South Africa manufacturer Welfit Oddy. The spokesman points out that they select a T11 tank type. Welfit Oddy IMDG T11 tank containers have a nominal capacity of 26,000 litres, with a tolerance +0.75%; -0.5%. Rated as suitable for Product Classes 3, 6.1, 8 and 9, the classes reflect the inherent dangers of spirit movements: Class 3 - Flammable liquids; 6.1 - Toxic substances; 8 - Corrosive substances. The tank containers are manufactured under ISO 9001 Quality Management System and are certified by Lloyds Register.

The spokesman adds: "For a

company such as JF Hillebrand USA, specialised in wines and spirits, South Africa is actually the best place for us to buy new equipment due to the substantial volume of export wine."

JF Hillebrand USA operates its fleet of tank containers centrally from its office in Montreal, Canada. The company has made significant investments in tank containers. It owns two-thirds of its fleet of 700 units and leases the remaining third from many different leasing companies. The tank containers that JF Hillebrand USA are currently leasing will not be acquired in the future, says the company.

Tank containers used by JF Hillebrand USA are kept for a considerable length of time, meaning the company has yet to experience or undertake the de-commissioning and disposal of any of its containers. The spokesman says: "We keep our tank containers for a minimum of 20 years. Considering that we have not reached this stage with any of our own tanks, we hadn't had to consider disposal yet – however, as and when the point arrives to dispose, selling the tank containers for static storage appears to be the best option."

The tanks are maintained and repaired in third-party locations at many different tank depots all over the world, including, among others, locations in Australia, the US, Canada, Belgium and the Netherlands.

The company normally has three-quarters of its fleet moving at any





one time. When the forwarder experiences any shortage of equipment, it can easily position empty equipment to the demand area to cover the gap. The drinks business is generally stable throughout the year, providing JF Hillebrand USA with a constant demand for ISO tanks. There is one peak, however, driven by the drink's industry seasonal Christmas peak in demand.

In order to allow time for bottling in foreign markets, JF Hillebrand USA sees a spike in traffic in September and October, notes the spokesman. He says: "Volumes increase by around 25% for these two months. The major tradelanes would be imports from Europe to North America and exports from North America to Oceania."

As the company ships wines and spirits worldwide, 100% of its fleet will at some time be moved by deepsea shipping.

Globally, the Hillebrand group is well known for its promotion of flexitanks, a flexible bladder that fits in a standard ocean container. Indeed, its Trans Ocean division is set up for liquid solutions and is the largest flexitank operator in the world. Formed in 1984, the company has been providing bulk logistics solutions and innovative flexitank products to clients across the chemical, oil, pharmaceutical and food industries. It has made extensive

efforts to cultivate the wine trade to move bulk wine shipments.

One reason that JF Hillebrand USA stays with tank containers is that flexitanks have a limited use in hazardous shipments. The spokesman says: "Most of our ISO tank business is spirits. This product cannot be loaded in flexitanks, which are not suitable for hazardous goods. Within JF Hillebrand, tank containers are seen as part of our service offering, extending the various services that we already provide to our customers."

"ISO tanks offer a bigger volume (26,000 litres versus 24,000 litres), insulation and flexibility in terms of detention and demurrage. Also, the fact that ISO tanks can be used for spirits, while flexitanks cannot, is significant."

Market trends among North American wine drinkers paint a

In 1844, Johann Friedrich established a freight commission business on Rhine River, providing loading, unloading and customs clearance services to the river-barges which connected Mainz with Amsterdam and Rotterdam. In the mid-nineteenth century, the wine trade started booming in Mainz, and Johann Friedrich began to expand the services by land and rail reaching out to Eastern Europe.

JF Hillebrand is now the world's leading specialist logistics provider to the beverage trade, employing 2,000 people in 48 offices around the world.

positive future for JF Hillebrand USA's tank container operations. Many industry observers, such as wine enthusiasts, wine experts, connoisseurs and vineyard owners suggest that in 15 years' time, the volume of wine being consumed in the US will have doubled the current volumes.

A third of all wine sales in the United States are imports at present. Italy is the largest importer by volume, accounting for almost a quarter of all imports by volume, followed by Australia at almost 10% of volume. France, Argentina and Chile come third to fifth in volume. In fact, with the exception of a small volume of Canadian wine that comes across the 49th parallel land border, all foreign wine must be imported into the US by sea.

As well as bulk wine shipped in flexitanks, wine is of course simply shipped in bottles. Cases will be transported on pallets in ocean box containers. However, JF Hillebrand USA is likely to see a diminishing traffic in bottled wines as the green arguments for bulk shipments begin to shift consumers' buying decisions away from the global shipment of bottled wine.

#### Tank specifications: Welfit Oddy IMDG T11 containers

Capacity: 26,000 litres  
Working Pressure: 4 bar  
Maximum Gross Weight: 36,000kg  
Temperature: -40/130°C  
Tare weight: 3,600 kgs  
Payload: 32,400 kgs  
Bottom valve: 3 inch BSP  
Equipped with Safety Hand Rail

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# Tank containers: a new logistics tool in Russia

**The unique Russian tank container market is set for growth, reports Alexander Alekseev**

Tank containers in Russia are a relatively new logistics tool. In the wide open spaces of Russia, this tool is used in a different way compared with Europe. Russian players believe the local tank container market is in process of growth and development, and has the potential to impact the global tank container market.

Distance shapes everything, from the geography of the Russian economy in general to the logistics sector in particular.

Russia is a huge country. Industrial centres and cities are separated by 2,000-3,000km. In Siberia, “near Irkutsk” means within 400-500km.

The Russian industrial and transportation sectors were created during the Soviet-era framework of a state-planned economic system. Production centres and transport hubs were not dictated by the competition or the principles of the free market, but by Soviet plans for economic development.

Today, Russian shipments of liquid petrochemicals and chemicals cargoes can be simply characterised – large quantities of cargoes from large production facilities needing to be transported over long distances.

The Russian railways, a gigantic



monopoly operating as RZD (Rossiyskie Zheleznnye Dorogi – Russian Railways), are the main means of transportation for liquid cargoes. RZD acts as both the owner of the rail infrastructure and the carrier. Although rail cars belong to private companies, they are driven by RZD. The quality of roads is improving, as the number of trucks is growing.

Tank container transport appeared in Russia in the 1990s and started being widely used after 2000.

There are over 8,000 tank containers in Russia with most of this fleet concentrated in three to four major tank container operators.

The quantity of tank containers and the volume of traffic flow, mostly by rail inside Russia, have increased strongly within the past four years. Growth is estimated to be 15-20% a year.

This high rate of growth is due to

a unique situation: transportation of certain cargoes by rail in tank containers is cheaper than the transportation of the same cargoes in rail tank cars. Some specialized rail tank cars are simply not available in sufficient quantities to meet market demand, leaving certain chemical producers with no alternative but to use tank containers.

This is one of the main differences of the Russian market compared with its European counterparts. All the main Russian tank container operators have primarily been railroad companies which have operated fleets of container flatcars (either owned or leased) in combination with their fleets of tank containers.

This created major barriers to entry for foreign companies since, without flatcars and without the expertise of dealing with RZD, they

are not physically able to compete with the Russian companies.

The market can be segmented into the type and trade lane of the carriage (see Table 1).

Russian companies operate in the domestic market and in exports, and dominate rail. Conversely, international players dominate imports into Russia and, due to this, are able to participate in some of the export markets as well e.g. being able to find commodities for back-loading in empty tank containers on their return leg from Russia.

However, the market is in a state of flux and within the next two to three years the Russian operators are expected to develop a strong competitive advantage over the international players in both the import and export markets.

Those global and European players who can find partners among the Russian operators may benefit. Today, however, the leading European and international players deal only with smaller agents in Russia.

## Leasing and production

There is no major tank container production in Russia, except for T50 gas tank containers. Russian companies are actively cooperating with all principal manufacturers of tank containers including CIMC, Changzhou No2 chemical machinery manufacturer Co and CXIC Group Containers Company Ltd.

International tank container leasing companies have successfully managed the unique Russian model. Exsif, Seaco and Eurotainer have long been working in the Russian market. Their Russian clients – mainly operators – are similar to others elsewhere. And, as elsewhere, they also want lower rates, lower lease termination fees and a relaxation of the payment period requirements.

Table 1: Operators in Russian tradelanes

	Import	Export	Inside Russia
Multimodal	International and Russian	International and Russian	Very few, mostly Russian
Railroad	Russian	Russian	Russian

But no one disputes that the Russian market comes with higher risks, although leasing companies are developing more of a presence with some even localising their equipment in Russia to be closer to their Russian clients.

To be able to operate on the shipping lines inside Russia, domestic operators have to customs clear their tanks leased from the international owners. This is an additional cost.

The margins of the leasing companies include the difference between the price of funding in Russia and in the international markets. Despite this, most of the Russian companies are purchasing tank containers on their own and are able to fund their long-term investments in Russia. The alternative 'asset-light' is viewed with some suspicion in Russia (and especially in the logistics sector).

Russian leasing companies are expected to be more aggressive in the internal Russian market.

## Infrastructure

The lack of infrastructure presents a problem in Russia.

Russian Maritime Register of Shipping (RMRS) is the main organisation monitoring the technical condition of tank containers in Russia. This entity confirms the results of periodic tests. It is one of the world's leading classification societies as Lloyds, SGS and Bureau Veritas. Representatives of RMRS are available not only in all major cities of Russia, but also all over the world.

There are major difficulties washing tank containers and obtaining international certificates in Russia. Depots and cleaning stations have only just come into existence and their capabilities lag behind the operators' business.

However, the number of cleaning stations and depots has grown tenfold within the last two to three years, which means that it is becoming possible to ensure the proper maintenance of tank containers in Russia. Almost all major Russian operators have started establishing their own depots for tank maintenance.

The lack of cleaning stations is an important factor which restricts the development of tank container shipping. Today, most railroad traffic returns empty to its original loading point – few are repositioned laden.

## Regulations

As in most countries, Russia has its own regulations regarding the handling of hazardous cargo and operation of equipment, for example, any petrochemical factory can ask for documents to be submitted to prove compliance with the requirements of the Russian law in industrial safety.

Further, some carriers may ask for additional documents proving that the given type of cargo is permitted to be shipped in the given tank container.

The main trend in the regulation field is the strengthening of the state control over the carriage of hazardous cargo by any means of transportation. It pertains



not only to railroad, but also to automotive transport, where the carriage is often associated with frequent violations.

The Russian government is taking serious action to protect the environment. This will eventually contribute to the development of cleaning stations with a possibility of legal disposal of the residual cargo. Today, not only the operators of the cleaning stations, but also their clients who present tanks with residual cargo share the responsibility for environmental crimes.

## Prospects

The growth in the volumes of liquid cargo carried in tank containers in Russia will continue. The main growth will be in exports and domestic shipments and this growth will be mostly provided by railways. Russian operators are expanding their fleets. Several major Russian petrochemical producers are expanding production and are planning to start using tank containers.

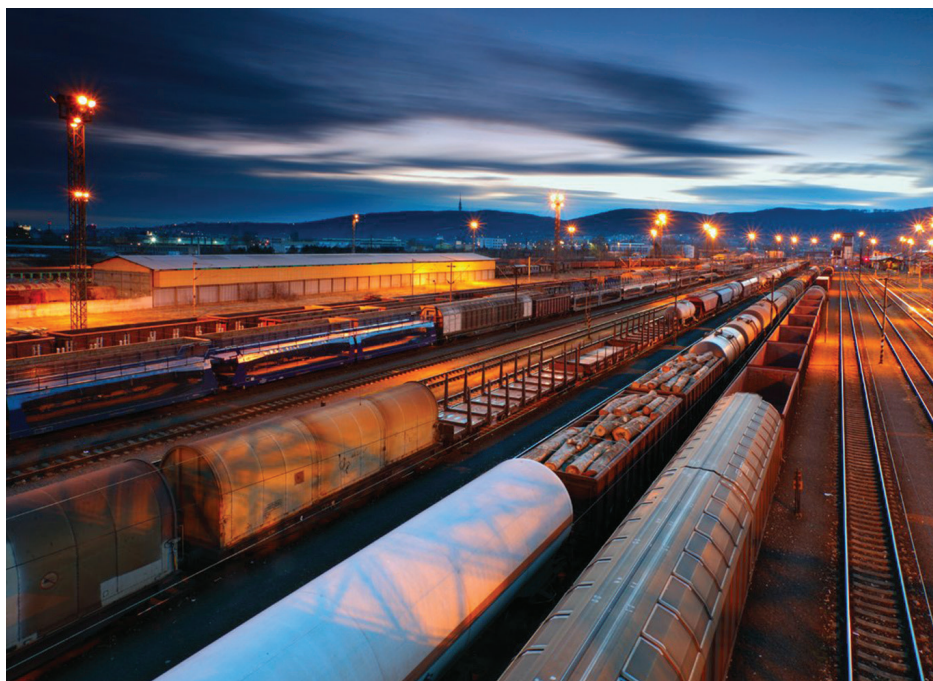
Imports are growing more slowly, with the depreciation of the ruble and general economic difficulties of Russia and Europe having a negative impact.

Demand for specialised tank containers for highly aggressive materials such as nitric and hydrochloric acid is growing significantly.

New players are expected – these may be major transport companies with railroad backgrounds, strong financial resources and the contracts with the major industrial groups.

The growth of the quantity of depots and cleaning stations will drive market development and will enable Russian operators to find return loads for their empty tank containers, thereby increasing their operational efficiency.

Increased competition in the domestic market will significantly



The main growth in liquid cargo volumes shipped in tank containers will mostly be carried on railways

contribute to the development of international business of the Russian operators and to the creation of local players in the tank container manufacturing and leasing market. The tank containers of the Russian operators are already involved in deepsea trades.

The specific nature of the Russian market makes it difficult for international players to develop business in Russia, except for imports and in the search for return loads.

Tank containers in Russia is a growing market which can be of interest, not only to operators but to the leasing companies and maintaining/servicing companies.

## Local knowledge

Business in Russia always requires a local representative and/or management. Issues are often only resolved personally and fluency in the Russian language and knowledge of the Russian culture opens opportunities that an outside company may miss.

Domestic shipments are a growing market which is not

easily penetrated by international operators. In order to diversify and increase the sustainability of their business, Russian companies will have to enter foreign markets. Using exports from Russia, they are already successfully bidding for import flows.

The geographic position of Russia gives a unique opportunity for railroad transit from China to Europe. This route may be costlier but is much faster. Moreover, the Russian railroad gauge finishes in Finland, the Baltic countries and connects with Poland and Slovakia. In the past few years, both private business and the member states of the Customs Union (Russia, Belarus, and Kazakhstan) have made efforts to establish railroad container traffic from China to Russia and Europe.

Today, it takes less than 14 days to deliver goods from the Russian Far East to Moscow.

Such tradelanes will obviously not be able to completely replace the sea shipping, but they will primarily target the high-margin segment of the market and cargo with critical lead times.



# SUTTONS

## Delivering Life's Essentials Safely

Strategically located near the Port of New York and New Jersey, Suttons Americas manages its logistics and supply chain operations from its headquarters in Iselin, New Jersey. Originally established in 1987, the company has grown significantly and now also operates from Houston, Texas where the company provides services for the vast and growing petrochemical industry.

Suttons Americas (Suttons) is part of the international specialist logistics and supply chain company Suttons Group and is supported by a large network covering most of the world's key logistics hubs. This year Suttons Group is celebrating its 60th anniversary and its American team has been a key driver to the success of the group.

Specialising in providing logistics and supply chain services for some of the world's largest chemical and petrochemical manufacturers, Suttons strongly believes it can offer its customers something different in a sector that has traditionally been volume and price driven.

Suttons has a large international fleet of tank containers but according to Suttons International's Managing Director, Graeme Rooney, the company's strength lies in the diversity of its fleet, not its size: "Whilst it's essential that we have tank containers available when our customers need them, Suttons specialises in being able to handle highly sensitive products and develop bespoke solutions. We have a significant number of baffle tanks which gives our customers the flexibility to transport products in a way that they are unable to with traditional general purpose containers. We also operate large

fleets of heated, refrigerated, lined and gas tanks. In addition we have helped a large number of our customers develop bespoke containers tailored specifically to their product requirements. I think our strong technical capability is well known and we are able to successfully apply the knowledge we have within the business for the benefit of our customers."

In 2013 John Sutton took over as CEO and is driving significant changes across the Group. "Suttons has provided tank container and hazardous goods transport for many years and we have maintained a successful business. However we feel the market is changing and through regular dialogue with our customers, as we look to understand how we can add more value to their businesses, we have seen more of a requirement for innovation, flexibility and providing solutions rather than just services.

"As a result of this we have significantly strengthened our senior management team. We have deliberately looked outside of the tank container sector and brought in people with considerable logistics experience from other industries. We feel their knowledge and experience in other areas enhances our ability to provide solutions to our customers' issues and align our services much more effectively with their own supply chains.

"There is often a better, more efficient, safer and more reliable way to transport products and we feel we now have the capability within the business to effectively apply different ways of working."

Graeme Rooney continues: "There will always be a place for 'A to B' transport and Suttons still

provides that service, but we are learning from close relationships and clear communication with our customers, that they want more from their transport providers. Suttons has been quick to address that. We often speak with customers who have managed their supply chains in the same way for many years. Through our experience in other sectors, we are able to successfully identify alternative solutions, releasing value to the customer and most importantly improving the service our customers provide to their customers."

Founded in 1954 as a trucking company in the north of England, Suttons Group has consistently been at the forefront of logistics and supply chain development. The company was one of the first to adopt ISO tank containers and quickly developed a reputation for the high quality, safe and efficient transport of sensitive products. The company invested heavily in its fleet and opened a network of international offices in key international logistics hubs during the 80s and 90s.

Today that investment and drive to push the industry forward continues. In December 2013, the company acquired a Chinese trucking company in Shanghai to support its six offices in the country and expand the range of services the company can provide. Most recently, Suttons bought a logistics company in Singapore, to build on the success of the sales office it already had in the country. As a result the company now also has trucks on the ground and depot infrastructure.

In the Americas, Suttons has recently formed a strategic partnership with Mexican freight





MD Graeme Rooney

forwarding company ROVESA. The partnership provides a range of logistics and supply chain services which include trucking, international and domestic ISO tank transport, tank cleaning, repair and maintenance and customs brokerage services.

Graeme Rooney: "Our focus in the Americas is service, innovation and total supply chain solutions. We have a dynamic and highly experienced team here and our staff are motivated and really want to make a difference for our customers. I believe we have a winning combination through the knowledge and experience of logistics and supply chain from other sectors, combined with the deep knowledge of the tank container and hazardous goods transport industry.

"Suttons has maintained a class leading reputation for safety and service for many years and Suttons Americas ensure that we maintain and develop that reputation with new and existing customers. We view each customer as a unique opportunity to distinguish ourselves and we do this through a determined focus on safety, service, innovation and supply chain excellence. If there is a safer more efficient way to move our customers' products, we'll identify it and we will build a solution tailored specifically for that customer. There is never a one size fits all solution".

Suttons has proved it is willing to invest in Asia, the Middle East

and Europe and that commitment will continue in the Americas Rooney says: "We have big plans for the company in this region. The chemical and petrochemical sectors are experiencing massive growth and we feel well placed to support it. Suttons has operated a trucking and depot network in the UK for the last 60 years and today operates the largest shared user chemical road transport network in the country. We have used this trucking experience and knowledge to establish successful road transport services in China, Singapore and Saudi Arabia and our aim is to replicate this service in North America."

Suttons' long history of operating in the Americas should leave them well placed to capitalise on the booming petrochemical sector that they serve. But Rooney is quick to point out that the company applies the same solutions and added value driven philosophy to other sectors: "Suttons serves a large number of petrochemical companies across the world but we also provide a range of different supply chain solutions to customers in other sectors. We have a significant number of pharmaceutical manufacturers as long-term customers and also provide both ISO tank container and road tanker services to a number of food manufacturers.

"Our approach is not confined to one sector. All manufacturers want a supply chain they can



CEO John Sutton

rely on and our approach of clear communication, continuous improvement and industry leading quality of service is as applicable in other sectors as it is in the petrochemical sector."

With year-on-year growth forecast set to continue, clear plans are in place to further grow the business. Suttons is very much a company on the rise and John Sutton is optimistic about the future: "I am very proud to be leading Suttons at such an exciting time. The teams we have in place will enable us to grow and capitalise on our core strengths and offer a broader range of services in logistics and supply chain management.

"We have enjoyed many successes in the past 60 years and are well placed to enjoy many more. We are very proud of our past but at the same time we are excited about the future and the impact and value we can create for our customers."



# Will the shale gale be blown out by low oil prices?

**Editor Leslie McCune reveals the US transformation and what it means for tank containers**

The answer to the question posed in the headline is 'No', which means there will still be plenty of demand for tank containers to bring the essential fracking chemicals to the shale drilling well sites in the US.

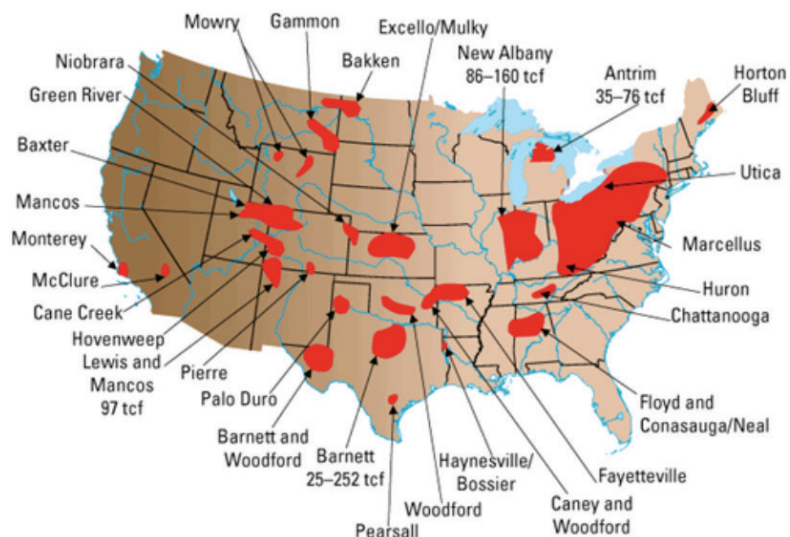
But first some background. Every day, 55 shale gas wells are drilled in North America – 20,000 gas wells were drilled in 2013 alone and over 2,000,000 oil and gas wells have been 'fracked' in the US.

Five years ago, there was virtually no production from the 'super-giant' Marcellus shale gas basin. Today, Marcellus alone produces 16 billion ft<sup>3</sup>/day of gas, equivalent to two and half times the UK's daily consumption and 45% greater than Saudi Arabia's daily gas production.

The rapid development of



Map showing the extent of Marcellus shale in New York state – an area with potential for natural gas drilling



shale oil and gas in the US has revolutionised the energy and petrochemical sectors in the US. For once, the 'revolutionary' cliché is apt – the rapid availability of shale gas and shale oil has led to a collapse in the price of both commodities.

US natural gas prices varied between \$5.82-\$13.31/million Btu (British Thermal Units) in 2008. By 2012, the natural gas prices had collapsed and traded in a range between \$1.82-\$3.77/million Btu. This still meant that US gas feedstock, at its lowest, was nearly two and a half times more expensive than in Saudi Arabia, where it is set by Royal decree at \$0.75/million Btu.

However, unlike in Saudi Arabia, gas is freely in the US. One of the most vital components of natural gas from a petrochemical feedstock perspective – ethane – has recently been sitting at a 10-year low price of \$0.22/gallon (\$163/tonne).

When ethane is cracked, 81% of it is transformed into ethylene, making it by far the most cost effective means of producing ethylene, the chemical industry's most important building block.

Ethane, for the moment, is so freely available in the US that it is being 'rejected' and therefore not extracted as an NGL (Natural Gas Liquid) from the natural gas itself. With the price of ethane at the same low value as natural gas, there is no financial incentive to extract it.

Its fate is to be burnt purely for its calorific, or fuel, value for power generation. 200,000-300,000 barrels per day of ethane are currently being rejected and burnt, enough to provide the feedstock for three world-scale petrochemical crackers.

No wonder, then, that six crackers are in the process of being built, with a further six crackers being planned. To add to the building frenzy, ten US ethylene expansions



are also taking place in 2014.

But the exceptionally low gas prices of 2012 are a thing of the past and prices had recovered to \$3.89/million Btu on 13 October 2014. The consensus for estimates of the long-term gas price is \$6/million Btu, which could make some petrochemical projects uneconomic.

The depletion rates of so-called unconventional shale gas wells are five times those of conventional gas wells. More wells have therefore got to be drilled, and financed, simply to maintain production.

Most shale companies have been increasing their debt because they have been running cash flow deficits, with capital expenditure exceeding operating cash flows. To keep drilling, upstream shale companies have to convince investors that it is worth committing more debt and equity capital.

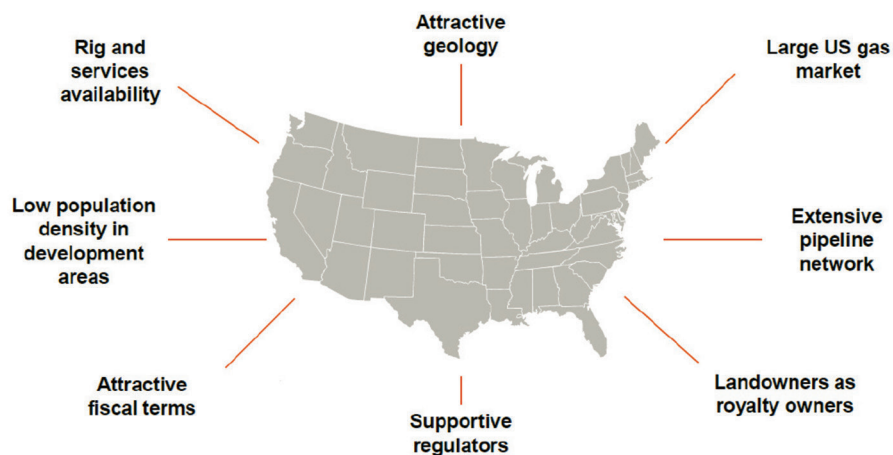
That's far less compelling with oil at \$70/barrel and gas prices at historic lows. Low prices now could stop high cost, marginal production – leading to higher prices in the future.

The compelling economics of shale gas have destroyed plans for the development of alternative energy projects - Exelon called off plans to expand two nuclear plants, CMS Energy Corp cancelled a \$2 billion coal plant after deciding it wasn't financially viable in a time of "low natural-gas prices linked to expanded shale-gas supplies" and NextEra Energy Inc shelved plans for new US wind projects in 2013.

US households will save an average of \$956 a year on energy bills from 2012-2015, equivalent to a tax cut that puts money in the pockets of US consumers.

\$125 billion of shale-related investments have been committed to US since shale gas development began in earnest in 2008.

Unlike anywhere else in the world, US landowners own the mineral rights under their land. These



Not all shales have this combination of favourable characteristics working together

potentially very large royalties for landowners, and the 'use it or lose it' requirement stipulated in drilling licences, encourages rapid reservoir development.

For shale oil, the US breakeven can be as low as \$45/barrel for those companies that have already purchased land acreage and equipment - far below the \$70/barrel level to which Saudi Arabia has driven down benchmark oil prices.

The average US shale oil breakeven price is reported to be \$75/barrel. Those upstream companies with operating costs above this level will not be able fund to their operating cash flows and will not be able to fulfil their future drilling obligations.

So what of shale and tank containers? To take a view on this, we need to appreciate the shale extraction techniques.

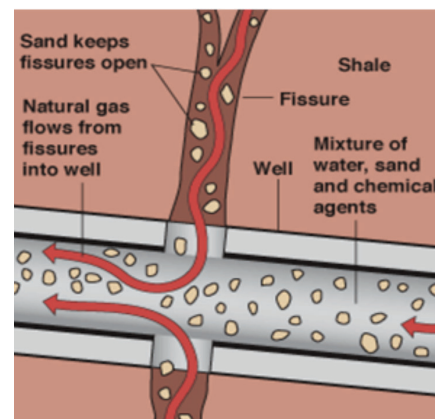
The commercial extraction of shale gas in the US isn't new – shale gas was first commercially produced in the US 193 years ago, in 1821. So-called 'hydraulic fracturing' isn't new – hydraulic fracturing (or 'fracking') was first commercially deployed in 1948 in Grant County, Kansas. And horizontal (or 'directional') drilling isn't new either – the first commercial horizontal well was drilled in 1980. This drilling technique

increased production rates by exposing more of the shallow shale reservoir to the well-bore.

The recent technical innovation, pioneered by Texas upstream company Mitchell Energy, released gas from tight shale rock formations by successfully combining horizontal drilling and hydraulic fracturing. The experts behind it, drilling expert Nick Steinsberger and geologists Kent Bowker and Dan Steward, have all just signed five-year contracts with INEOS.

Sand, water and chemicals are injected into the shale rock formation. The liquid chemicals are often brought onsite in tank containers. Barrel or silo road tankers can be used but gas wells are often drilled at the end of dirt tracks or in open terrain that is too rough for road tankers.

The well bore is cleaned of



drilling mud and dissolved rocks, such as limestone, by pumping concentrated hydrochloric acid into the well. A slickwater pad of friction-reducing agents is then pumped into the well, allowing the “proppant” and fracking fluids to flow more easily into the fractures.

The friction-reducers are typically potassium chloride, petroleum distillates or polyacrylamides. The proppant is a mixture of water, sand and a complex carbohydrate viscosity agent called a gellant which forms a reversible viscous gel. Gellants are composed of modified carboxymethyl hydroxypropyl guar gum or modified hydroxyethyl cellulose.

Biocides are also used to reduce bacterial growth, which reduces well conductivity. Scale inhibitors, corrosion inhibitors, and oxygen scavengers are used



“Just send my cheque to Florida” – US landowners own the mineral rights under their land

to reduce chemical fouling

Estimates of tank container usage are difficult to quantify but a close reading of the environment impact statements of the numerous well developments, together with comments from the upstream drilling companies themselves, suggest that there are over 20,000

tank container movements each year, approximately 15% of the entire annual global tank container movements of the leading global tank container operator.

*Leslie McCune is Editor of TCM and advises on how shale impacts the global petrochemicals and petrochemical shipping sectors*



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# Investment lifts Houston's tank container prospects

**Economic progress in the Texan port's hinterland suggests strong demand for regional intermodal services. Clive Woodbridge reports**

It is widely accepted that the port of Houston is firmly established as the biggest tank container handling gateway in the United States. However, there is, perhaps, a shortage of hard and fast statistical data to fully back that assertion. Nobody seems to count tank containers separately from other container types so it is hard to know for certain how many tank containers actually pass over the port's container terminal quays in any given year.

But as the port is a primary gateway for the country's petrochemicals trades - and the Port of Houston's Trade Development unit ranks chemicals and resins as the biggest containerised cargo commodities moving through the port - there seems little reason to challenge the assertion.

Houston's overall container business is struggling a little compared with other US ports. Last year, the port's 1.95 million TEU throughput was a mere 0.8% higher than that for 2012. In the first nine months of 2014 the port handled 1.47 million TEU, down 2% on the same period in 2013, suggesting that Houston's container business



The port of Houston will improve operational efficiency by switching from chassis to ground storage served by RTG cranes

will once again flatline this year.

More positively, the US petrochemicals sector is booming with over \$125 billion of shale-related investments being channeled into the sector for new or expanded capacity. The Houston Ship Channel and the surrounding area is a natural magnet for these investments as it has the largest concentration of petrochemical facilities in the US. A series of new cracker and methane-derivative projects are under way to set up huge capacity additions for methanol, LPG, ethylene, propylene and polyethylene plants - these will start up from 2015 with companies such as Chevron

Phillips Chemical, ExxonMobil Chemical and LyondellBasell rapidly expanding their capacity.

There is significant petrochemicals industry investment in progress elsewhere in Houston's hinterland with several major projects in and around Freeport, Corpus Christi, Mont Belvieu and Beaumont.

Collectively these investments will create new capacities that will far exceed domestic North American demand so major new export volumes of bulk liquids are inevitable. The tank container sector is well placed to meet these and the port of Houston will be a beneficiary of this trend.

In addition Houston is now

the fourth largest metropolitan economy after New York, Los Angeles and Chicago. Fuelled by oil, gas and petrochemical investments, Houston's growth rate is the second fastest in the US. The economic fundamentals underpinning Houston's tank container business are sound and the port will handle higher numbers of tank containers as a result. The intermodal tank container share of Houston's container traffic will increase steadily over the next few years.

Houston has two main container terminals - Barbours Cut and Bayport. Neither facility has specific areas set aside for tank container operations, nor are there plans to create dedicated facilities to cater for the demands of this niche container trade. However, the port authority is embarked on a significant infrastructure investment programme which, while not specifically targeted at the tank container segment, will boost overall capacity and facilitate growth in tank container import and export movements.

Work is under way to prepare the port to accept larger container vessel types of 9,000 TEU and above. Dredging is already underway at the Barbours Cut Container Terminal and this is due for completion later this year. Once this is done, the US Army Corps of Engineers will commence similar works at Bayport. The estimated \$80 million project will deepen the port's access channels from 40ft (12.2 metres) to 45ft (13.7 metres), to match the depth of the Houston Ship Channel.

The port authority is funding the dredging projects at its own expense to ensure the channel improvements are available as soon as possible to accommodate larger and more efficient container ships. The work will also allow Houston to take better advantage of the opening of the expanded Panama Canal in 2016.



Tank container shipments through the port of Houston are poised for a sustained increase

In terms of landside port infrastructure, the port authority is making significant improvements both at Barbours Cut and at Bayport, which between them handle two-thirds of container throughput along the US Gulf coast. Currently, Barbours Cut has six container berths, totalling 6,000ft (1,828 metres), and is equipped with nine ship-to-shore cranes, five of which are Panamax specification, and four post-Panamax size. These are supported by a fleet of 36 rubber-tyred gantry (RTG) cranes. At Bayport, there is 3,300ft (1,005 metres) of quay, equipped with nine super-post-Panamax quay cranes and 27 RTGs. For 2014 alone, the port authority

has identified capital improvement needs equivalent to \$283 million. These related to the ongoing development of Bayport and the modernisation at Barbours Cut.

At Barbours Cut a wharf rehabilitation programme, involving the redevelopment of 1,300ft (396 metres) of quay line to support larger ship-to-shore cranes, has recently been completed. Four Kone super-post-Panamax quayside gantry cranes have been purchased for this site and are due to arrive in early 2015.

The upgrading of the yard area at Barbours Cut is still in progress and should be completed by next summer. Twenty acres of the container yard are being



redeveloped to convert landside operations from wheeled storage, using chassis, to RTG stacking. This will increase terminal capacity by allowing denser container storage. The port has purchased a number of new Kone RTGs in the past year, and further investment in equipment of this type is anticipated.

Bayport has also received its share of investment over the past two years. This includes 11 new RTG cranes and the opening of a new gate complex featuring optical character recognition technology at the in-gate.

Port container handling capacity is not, as a result of the investments being made, likely to be a significant issue for Houston's tank container operators and shippers over the next few years. However, as the recent annual meeting of the Intermodal Tank Container Association (ITCA) heard, this sector does face a 'capacity crunch' for other reasons, most notably a shortage of road haulage equipment and drivers.

Frieda Lolley, director of sales, Best Transportation Service, and ITCA committee member, says: "At the recent ITCA event, a number of speakers pointed out that overall truck capacity can no longer meet demand and industry experts expect the situation to continue. Many drivers were displaced during the 2008 and 2009 economic collapse and have not been replaced. Drivers are retiring faster than they are being recruited and government regulations are restricting the amount of time that they can work."

As a result of this road transport capacity shortage, tank container shippers are being urged to focus on how they interact with carriers, to ensure that they are a 'shipper of choice'. Prompt payment and having all necessary documentation in order are key elements in ensuring that a shipper is at the front the queue when it comes to

being allocated scarce trucking capacity, the ITCA meeting heard.

According to another ITCA committee member, Pamela Glusic, of Multistar Tank Leasing: "It was apparent from our discussions that shippers who are not flexible and set hard deadlines may receive the least amount of capacity, simply because scheduling constrains flexibility and capability. The ability of the carrier to have scheduling flexibility with their shippers allows them to plan for multiple shipments and this leads to greater load coverage."

There are some signs that the message is being taken on board by shippers. According to one speaker at the ITCA event, "In today's market, to help the capacity crunch, some customers have become more flexible in scheduling. They have become partners in business with carriers as opposed to simply treating trucking companies as contract labour."

Tank container transport firms are also taking steps to address the issue, with companies for example loosening hiring qualifications,

changing pay packages and recruiting programmes, and focusing more on retention and maximising the utilisation of existing assets as a way of increasing effective capacity. "There is a sharper focus on maximising the efficiency of every tank container unit being operated," says Lolley.

ITCA was created to bring people together in the bulk liquid intermodal transportation industry and for the past 11 years has, once a year, hosted a networking reception together with an educational symposium. This year the Intermodal Bulk Liquid Symposium event, held close to Houston, Texas, welcomed over 250 guests from all corners of the world, including key executives representing ports, railways, chemicals, manufacturing, food and pharmaceutical companies, tank container leasing and operating companies, flexitank operators, depots, freight forwarders, and transport providers. Planning for the 2015 event is well underway, and details can be obtained by contacting an ITCA committee member.



Houston's container terminals do not as yet have any specific areas set aside for tank container activity

# We're battle-hardened and ready to go global

The dramatic rise in US oil and gas production has sparked a substantial rise in business for firms like Girard Equipment, reports Martin Rushmere

Increased US oil and gas production, particularly in shale oil, and the resulting increase in demand for tank containers, has had a ripple effect along the supply chain. Tim Girard, President and CEO of Girard Equipment in Vero Beach Florida, says the company has recorded a substantial increase in business.

"The railroad industry has benefited greatly and we are making and supplying a wide range of valves and related parts for the 40-foot hybrid and versatile tank containers that can be used on road, barge and rail, enabling west coast traffic to move more efficiently."

Best known for pressure relief valves, the company makes 450 different products. Tim Girard is bullish about prospects and market growth.

"All the signs are there for continued growth." But while many industry insiders predict virtually unstoppable growth over the next few years on the back of rising domestic oil and gas output, Tim Girard is more cautious and warns against what he terms over-exuberance.

"We have already seen a softening in some parts of the industry. It's more of a flattening out, not a reduction. You don't hear the

optimism quite as much as you used to. I certainly don't see the market going away, and the US will still be a net oil exporter over the next few years."

The company's confidence in its own prospects is partly based on its 20,000sq ft investment casting foundry, owned by a subsidiary company, Investment Casting Specialists. Hand-poured castings, mostly 316 (300 Series) stainless steel, are made from ingots as the raw material (at least 90% of the raw feed comes from within the US).

"The foundry has made us much more nimble," says Tim Girard. "We can keep our prices stable because we are not affected by sudden price changes in the stainless steel market, inventory can be tightly controlled as we can plan for demand and we have a very quick turnaround time."

Girard is able to ramp production up and down very quickly. "Before we had the foundry we had to buy castings on speculation."

Newbuild road tanks and tankers account for about half of all sales. And many of these are for customers operating in Canada and Mexico, who are benefitting from the North America Free Trade Agreement.

US DoT specifications and regulations are largely accepted



Tim Girard, President and CEO of Girard Equipment

by both countries. After-market customers vary greatly, and include repair, transport and service companies.

"One of our goals several years ago was to manage more of the supply chain with different sized packages, from large rail tankers down to intermediate bulk containers. We are really hitting on all cylinders." Offshore oil work has become more important.

According to the International Tank Container Organization, the size of the world fleet has reached 394,000, a 12% (42,600) increase over 2013. The US fleet is put at 12,900. Stolt in the UK is listed as the largest operator, with 32,100 units, while the biggest US operator is Intermodal Tank Transport with 5,000. EXSIF Worldwide of the US is the biggest lessor in the world, with 43,550 units.

Markets in Asia and Europe are growing for Girard and account for 20% of sales. There are offices in London and Beijing, plus an office and warehouse in Rotterdam.

China is proving a reliable market and long-lasting relationships have been forged with some of



the biggest manufacturers.

"They are very accepting of our products and tank builders are very loyal in buying from us. We don't experience piracy or copying and they are very respectful of our designs." An extra office will be opened in Europe and Asia in 2015, serving the tank container and offshore markets.

Girard is well adapted to European technical standards and regulations. "We have become battle-hardened with US DoT regulations and are quite able to cope with European and ISO specifications. Barry Sisk in our London office has considerable experience and knows his way around."

A big technical product development in 2014 has been a patent pending for a Hydraulically Actuated Sliding Cleanout valve (HASCO), used on road tankers. (This will bring the company's number of patents to nine in the US, plus others in Europe and China.)

At the unveiling of the prototype earlier in the year, Tim's brother Dave told an industry gathering: "The HASCO valve resulted from the Cargo Tank Risk Management Committee's efforts to limit driver falls from the top of trailers.

"We're looking at this from the perspective of keeping drivers safe. We have a manhole protected by an overturn, as well as on certain tanks, MC-307 and DOT-407, there may be a cleanout—an opening where a tank-cleaning facility would insert equipment to clean tanks, usually for difficult-to-clean products.

"Drivers are obligated to make sure a load is secure. So they'll check the manhole cover and cleanout caps. Cleanouts tend to be at the end of the catwalk, so we ask drivers to go to the end of the cleanout and make sure the cap is set. Every year, there are falls. It's just inevitable.



The HASCO valve resulted from the Cargo Tank Risk Management Committee's efforts to limit driver falls from the top of trailers

"The beauty of the HASCO valve is it keeps drivers from having to make that climb because it's operated from the ground. Typically, a cleanout cap has a seven- to 10in diameter. That's a small space to work within."

The family intends to keep the company, founded 65 years ago, private. "Just about every year we get approaches from outside, but we are staying private," says Tim. "We are loyal to our 125 employees, some of whom have been with us for 40 years." The five-year outlook is to expand the market, especially overseas. "A big part of our focus is to become much more global," says Tim.

Foundry manager Bill Laiacono summarises the production process: First, heated wax is injected into aluminum tooling to produce a wax pattern in the exact shape and size of the desired end part with allowances made to compensate for shrinkage. One or more wax patterns are assembled on a wax "tree." Assembled wax trees are dipped into a liquid ceramic slurry, allowed to drain, then coated with a fine grain sand. After drying, the process is repeated again and again using progressively coarser grades of sand until a self supporting shell has been formed. The shell containing the wax pattern(s) is placed into an

oven at 1,500°F to remove all wax from the interior of the shell.

Then the shell is preheated to 1,800°F in preparation for pouring. High frequency induction furnaces are used to melt 316 stainless steel in quantities up to 500lbs per heat. Molten metal is poured into the preheated shells at 2,950°F. The metal is allowed to cool and the shell is removed by means of a stainless steel shot blaster. Individual parts are then separated from the tree using a 20in abrasive cut-off saw.

Any excess metal is removed by belt grinding. Parts are heat stamped and electropolished before travelling to Girard Equipment for machining and assembly.

Some of the major patents (year awarded and patent number) awarded to Girard have been: Vent valve (2013, 8561637); Pressure relief valve (2006, 6994101), Apparatus for venting a container containing fluid (2003, 20030057208); Venting cap with yieldable plastic ring (2000, 6145530); Jet-flow pressure relief vent (1993) 5203372; Vibration resistant pressure actuated vacuum breaker (1981, 4273153). The HASCO (titled remotely operable cap assembly for a tanker trailer) application number is 20140210197.

# Enlarged Panama Canal may not impact rates

100 years after a continent was cut in half to create the Panama Canal, the project to double its capacity is well on track. Wendy Pascoe reports

By any standards, it's a big job. Dull engineering, it isn't. The numbers are staggering – a nine year schedule, 30,000 jobs created to date, millions of cubic meters of concrete to pour, half a billion dollar lock gates the height of a cliff and a total budget of US\$5.25 billion.

By the opening, due in early 2016, three new locks and a parallel shipping lane will have been created. Construction of the locks is dependent on the use of reinforced steel, a material which didn't exist when the Panama Canal was built. The canal architects of 100 years ago would surely have been amazed at how much effort their 21st century brothers have put into environmental measures, including ensuring the new locks lose as little water as possible.

These new locks will allow significantly bigger vessels through the canal. To give an idea of the ambitious scale of the project, the existing locks allow the passage of vessels up to 5,000 TEUs (twenty foot equivalent units). The new locks will allow so-called Post Panamax vessels of up to 13,000



TEUs, 100,000 tonnes deadweight vessels, to transit into and from the Pacific and the Atlantic Basin. The new maximum ship dimensions will be 1,200ft in length overall, with a 161ft beam and a draft of just under 50ft. They will be able to carry almost three times the number of containers more than the previous maximum. The reduction in sailing time and distance should provide scope for ocean freight reductions for tank containers.

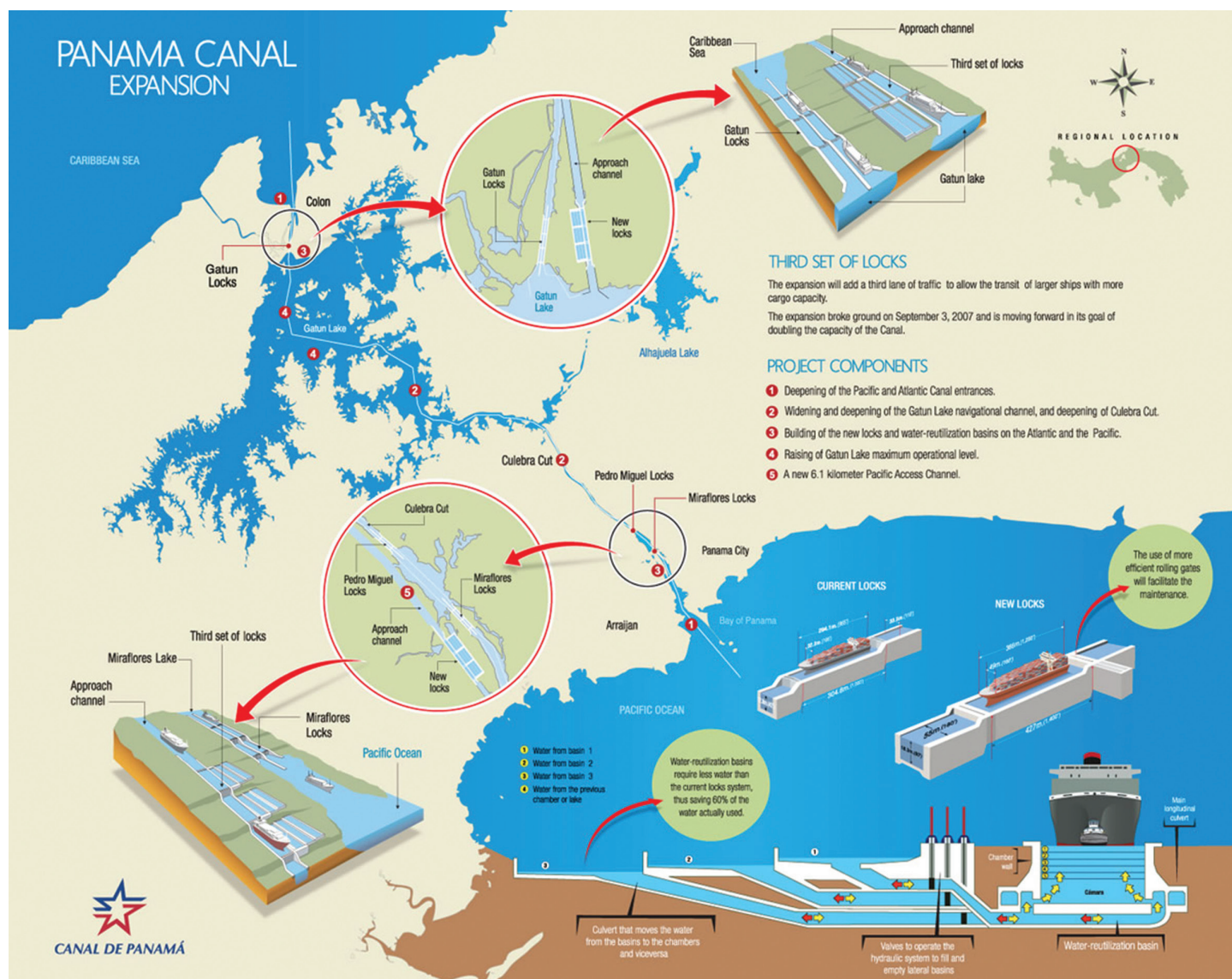
The Panama Canal Authority and the scheme's supporters say the resulting increased capacity will have a direct impact on economies of scale and the international maritime trade. There should be shorter queues of vessels at either end of the canal and therefore quicker transit times. Total passage times should be cut and, in theory, costs should be reduced.

The long established pattern of global shipping movements may also be affected. From west to east, US east and Gulf coast container ports could see increased business, with more cargo being landed. Vessels transiting east to west would help boost exports to Asia from those US Gulf ports. Industry watchers say ultimately it will mean that Asian goods will be brought to the US and Eastern US Gulf coast port markets for lower cost.

Ship designs are also changing. Economies of scale are the most important factor for container ships in service. The trend is for larger vessels, with post Panamax vessels above 11,000 TEUs enjoying the major share of the total transport volume.

The old Panama Canal had always been the restricting





factor. There was little point in commissioning new vessels to benefit from these economies of scale if they couldn't physically transit the canal. But, after the 2016 opening, the enlarged Panama Canal will be on a near equal footing with the other two principal restricting thoroughfares of maritime navigation, the Suez Canal and the Strait of Malacca.

The London-based International Chamber of Shipping is among those watching with interest as the opening of the new locks comes ever closer. However, its Secretary General, Peter Hinchliffe, says the benefits may not be that clear cut for everyone.

"The canal expansion will open

up opportunities. The ICS has had significant contact with the Panama Canal authorities. They have clearly done some very detailed work on the new pricing structure, but time will tell if prices are driven down because of the increased capacity. The time to go through the canals is about the same but what will improve is the efficiency, the throughput and less waiting at either end – these will be a considerable benefit.

"Canal tolls were increased some time ago in a number of stages, partly to fund the project. We were not very happy. As part of the discussions we won a concession that there will be no further increases until the new locks open."

What concerns Mr Hinchliffe and others in the industry is that tolls will increase again from 2016, cancelling out any savings which may have been made because of quicker transiting times.

"The ICS had contributed to the consultation process to set the new tolls. We are being listened to", said Mr Hinchliffe. "What's important is that the ship owners have time to plan. If they had inadequate notice of toll increases then it is difficult to pass them onto the customers. We have asked for one year's notice."

Those customers will include tank container operators. One industry representative said the canal expansion and changes to the toll

structure may have implications for them, but it was too soon to tell exactly what. He would expect shipping lines to negotiate higher fees which could be passed on to tank container operators. But he described tank container operators as the middle men, and higher costs ultimately would be passed on by them to their customers.

Another industry watcher agreed. Lower ocean freight rates can be expected for tank containers on the larger ships transiting the Panama Canal, he said, but the effect is not expected to be pronounced enough to stimulate new tank container flows.

For now at least, the doubling of capacity on the engineering miracle which connects two continents can only help strengthen Panama's position strategically as a transshipment hub and as a business centre for much of Central and South America. Its operators say the expansion will help maintain its competitiveness and the value of a maritime route through Panama. They are however looking over their shoulders at a possible new kid in town.

Competition for the Panama Canal will come from the \$50 billion Nicaraguan Canal Project, due for completion in 2020. The project is being led by China's HKND Group, a privately-held infrastructure development fund based in Hong Kong. It promises much but isn't without controversy. To date there has been no public consultation on the project, no feasibility or environmental studies and very little parliamentary debate.

The intention is that the ports of Brito on the Pacific coast will be linked to Bluefields on the Caribbean coast by the 60km canal, which will be capable of receiving LNG carriers and tankers up to 400,000 tonne deadweight, sailing west from Venezuela and the US, loading at Cheniere Energy's Sabine Pass LNG export terminal or Qatar Petroleum / ExxonMobil's



Construction of the locks is dependent on the use of reinforced steel, a material which didn't exist when the Panama Canal was built

Golden Pass terminal, to China.

Average LNG shipping costs from the US to Japan, the main export market, in a 160,000 m<sup>3</sup> vessel are forecast to be \$1.2/mmBtu in 2015 on a delivered basis. Exports to Japan from Qatar and Australia will be \$0.3-\$0.6/mmBtu lower for a similar size vessel, and \$0.5-\$0.8/mmBtu lower for the larger 210,000 m<sup>3</sup> vessels that the Qataris and Australians can deploy, given they do not have to transit the Panama Canal.

The canal will be a conduit for the new lighter shale crudes being exploited in the US, although the heavier crudes from Venezuela are unlikely to be in demand in Asia, where the refineries are not configured to receive high sulphur crude oil.

Annual revenues are expected to be \$5.5 billion. The build-own-operate project will transfer ownership from HKND to the Nicaraguan state over 100 years and is forecast to double Nicaragua's \$10 billion GDP through to 2019.

Peter Hinchliffe from the ICS sounded a note of caution however: "The ICS had been given a very good presentation on the plans. However the expectation of cutting earth by the end of this

year and the overall timescale is optimistic. There is a lot of infrastructure to be built at each end of the new canal, and there is to be a new port at each end too.

"It may be that the new ports are constructed first, giving the authorities there the opportunity to develop the hubs before the canal itself is constructed. It will be a much bigger canal than Panama, and it will take a long time to build, a lot longer than the Panama Canal. Think how long it has taken the Panamanians to develop these new locks and they are good at it. They have been doing it for a long time."

But regardless of who wins the battle for supremacy of the canals in Central America, both may end up losing the overall war. In recent years, Asian exports to the US east coast have at times avoided the narrower Panama Canal in favour of the Suez route which is open to most big ships. But these days even the mighty Suez, which is itself also considering expansion, isn't untouchable.

As the global economic tectonic plates shift, the main markets are increasingly in China and India, and they buy closer to home, from places like Australia and Africa, and this means they don't need canals at all.



# Investment is key to supply chain visibility

One of the world's largest 3PLs, CH Robinson, has been growing its US tank container business despite the many challenges currently facing the industry, writes Elaine BurrIDGE

CH Robinson's centralised strategy in the US for liquid bulk is driven by its ChemSolutions® division. This division is dedicated to growing the business through collaborative relationships with asset-based tanker carriers focused primarily in the Gulf coast, south-east, mid-west and east coast regions.

ChemSolutions® general manager Nathan Buelt says: "As a third party, we have the advantage of contracting with shippers and carriers allowing us to arrange the transportation of numerous types of chemicals."

Specific to tank containers, CH Robinson and ChemSolutions® are targeting the chemical, oil and gas, and food and beverage segments, with a focus on base and specialty chemicals, liquid gases, fuels, hydrochloric acid, and food-grade liquids.

"Through our contractual relationships we have built a network of providers that can source equipment needs for the most specialised requests, allowing our clients to reach an extended network through one point of contact," Buelt explains.

Headquartered in Eden Prairie, Minnesota, CH Robinson operates in North America, South America,

Europe and Asia, and has contractual relationships with more than 63,000 transport providers. The company's gross revenues reached \$12.8bn in 2013, and had reached \$10.1bn for the nine months ending 30 September, 2014, showing an increase of 5.4%.

Despite a healthier economy, North American firms are battling on several fronts. The tanker market has seen capacity and pricing pressures as a result of trends related to driver recruitment and retention, as well as rail capacity constraints and government regulation. For example, a change in hours of service that came into effect on July 1, 2013, has cut the maximum average working week for truck drivers from 82 hours to 70 hours.

Buelt says the current shortage of drivers is the primary challenge. When the global economy fell into recession in 2008/2009, the need for drivers waned and many of them left the industry.

"Demand for drivers with the ability to responsibly drive a tanker truck has outpaced the growth of the driver pool. As the average driver age continues to increase, the lack of new drivers into the industry is creating challenges for tanker truck operators," he notes.



ChemSolutions® general manager  
Nathan Buelt

For 2015 and beyond, as chemical production in North America increases, particularly on the back of the huge investment in shale gas and downstream capacity, the driver shortage is expected to worsen. Buelt says this will create a situation where chemical manufacturers and those dedicated to support the industry must work together to build comprehensive solutions around chemical supply chains and distribution.

"ChemSolutions® has been successful in reacting to the capacity constraints by working closely with clients and carriers to develop comprehensive solutions that allow all parties to execute day-to-day operations while positioning for the future," he states.

During 2013 and 2014, ChemSolutions® has invested in enhancing Navisphere, CH Robinson's global technology platform, both to streamline operations and capture the necessary requirements for safely transporting liquid bulk products. The company says it will continue to invest in technology for improving the operational efficiencies of both clients and carriers.

"A manufacturer's need for visibility throughout the full life cycle of an order requires significant investment in technology, an investment that providers such as ChemSolutions® can spread across a wide client base and then tailor as needed," says Buelt.

ChemSolutions® claims to be one of the first third-party logistics providers to earn RC 14001 certification, which combines Responsible Care and ISO 14001 into a single process based on an international standard that is accepted by chemical manufacturers worldwide.

Production of base chemicals in North America is expected to surpass its 2007 peak within the next few years, and output of specialty chemicals is also anticipated to continue growing. Buelt notes that as these two

sectors expand, demand for distribution infrastructure will continue to increase, leading to expected investments by existing companies as well as potential new entrants to the market.

He adds that an ancillary effect of the shale oil development is the amount of rail tank cars being used to move the oil, resulting in less availability for chemical manufacturers. Coupled with requirements to refurbish rail

tanker cars to newly adopted specifications, demand for over-the-road (OTR) tankers is increasing, he says.

Compared with other products, the chemical supply chain is highly complex and is often the longest and most volatile too. As a result, Buelt believes that chemical manufacturers must invest further in people, processes and technology, or turn to the market to outsource these key functions.



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# Expanding globally to stay ahead of the game

Among the many companies serving the oil, gas and petrochemicals sector in booming Houston is Third Coast International, writes Leslie McCune

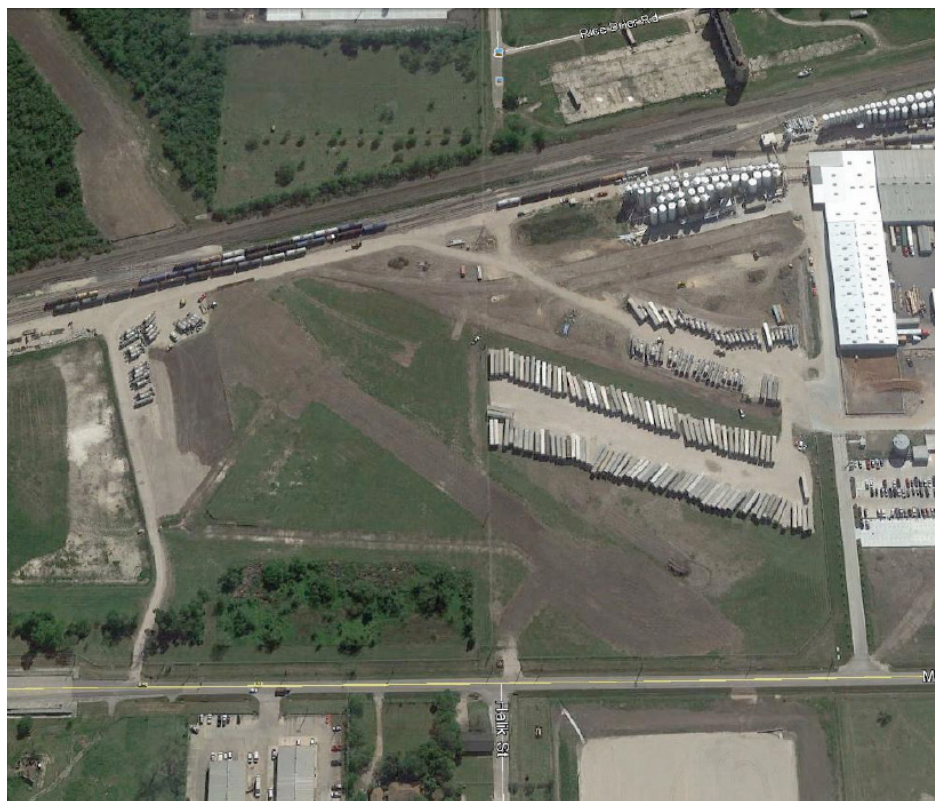
The privately-held corporation Third Coast International was started in 1998, but now has a global network of affiliated companies providing contract manufacturing, terminal services, construction and customised sales and marketing solutions.

One of its affiliated companies, Third Coast Terminals in Houston, brings tank containers into its 60 acre site for trans-loading into rail tank cars and trucks. The flexible operation receives and ships out product by rail, truck, tank container and flexitanks.

There is storage for tank containers (usually called ISO containers in the US) with the tank containers left on the chassis.

Grif Carnes, Third Coast Terminals Vice-President and General Manager, describes the Houston terminal as having "164 storage tanks with room for over 100 more".

Current storage volumes, he says, are "over 30,300m<sup>3</sup> with stainless steel, carbon steel, carbon steel-lined construction with tank sizes



Grif Carnes, Third Coast Terminals Vice-President and General Manager, describes the Houston terminal as having "164 storage tanks with room for over 100 more"

ranging from 193m<sup>3</sup> to 340m<sup>3</sup>.

Of the eleven packaging lines, three are whiteroom 'current Good Manufacturing Practice', certified for food grade and high-purity products. These lines fill 200-litre (55-gallon) drums and intermediate bulk containers (IBCs). An anticipated 400,000 drum equivalents will be filled in 2014.

The multi-functional facility blended over 91,000 tonnes of product last year and has blend tanks ranging from 1.89m<sup>3</sup> to 340m<sup>3</sup>.

Typically in the chemical sector,

reaction processing has higher margins than blending and packaging, and this opportunity is being targeted by Third Coast. The site has steam and nitrogen available throughout the plant and cooling capabilities are in the progress of being added.

The company is a Responsible Distribution Certified member of the National Association of Chemical Distributors and a Responsible Care Partner with the American Chemistry Council.

Elsewhere in the group's network, Third Coast Chemicals is a global

marketer and master distributor for the Huntsman Jeffcool inhibited glycols product line – these are metal corrosion inhibitors and include inhibited ethylene glycol and inhibited propylene glycol. The company manufactures and exports brake fluid, DOT 3 'domestic US' brake fluid and DOT 4 brake fluid. These categories of product are regularly moved in tank containers.

Further afield, in Singapore, the group's Chemical Specialties Ltd (CSL) affiliate focuses on contract manufacturing.

Contract manufacturing is the custom-production of products using a customer's trade knowledge and intellectual property to manufacture products for them and their end-customers. In this business model – widely used and increasingly popular in the chemical sector – the contract manufacturer produces exclusively on the customers' behalf and rarely manufactures for its own sales.

CSL was formed in 2006 in Singapore and began construction on Jurong Island in early 2007. It started operations in 2009 and specialises in contract toll manufacturing, custom processing, and terminal operations.

Responding to, and anticipating, the strong petrochemical growth developments in the GCC (Gulf Cooperation Council comprising Saudi Arabia, Qatar, UAE, Kuwait, Oman and Bahrain), Third Coast International WLL was formed in 2012 to provide chemical storage and associated terminal services to the petrochemical, oil and gas industries of the GCC, with a strong emphasis on Qatar. There, \$25 billion will be invested in the next six years to more than double petrochemical production to 23 million tonnes by 2020.

Third Coast International WLL is a joint venture with local partners and will undertake contract manufacturing, toll processing and blending. It will also provide



terminal services, transportation logistics – including tank container capabilities – and industrial and hazardous packaging operations.

Twenty-eight stainless steel and carbon steel storage tanks are under construction, providing 10,000 m<sup>3</sup> of bulk liquid storage in a range of tank sizes 200m<sup>3</sup>, 370m<sup>3</sup> and 500m<sup>3</sup>, all built to AFPM IIIA-1 storage standards. The tanks will be connected to associated blend reactors and drumming lines.

The site is currently connected by two pipelines to Berth 10 of the port of Mesaieed. The pipe infrastructure will be upgraded with the installation of an above-ground pipe-rack to carry a number of pipelines to and from the berth. Bulk vessel quantities can be accommodated.

Phase II plans are also being developed which would see this capacity double. Those familiar with the *Middle East Tank*

*Container Market Review* might have noted in the latest issue that the GCC tank container sector continues to grow strongly, with an anticipated one million tonnes of bulk liquid petrochemicals and refined petroleum products being moved in the region by tank container. Demand is being driven by the increasing production of specialty chemicals, the increased demand for tank containers for use as temporary bulk storage and the increased demand for tank containers to move off-spec or waste refinery streams elsewhere in the world for further processing.

Third Coast International's global initiatives, therefore, position it ahead of burgeoning demand, not just in Qatar but also in Singapore and the US.

*Leslie McCune is Editor of TCM and is an independent petrochemical and petrochemical supply chain expert, focused on the Middle East*



# Innovation the motivator as Hoover looks ahead

**Hoover Container Solutions' claim to fame is as the original manufacturer of stainless steel intermediate bulk containers, half a century ago. Felicity Landon talks to CEO Donald Young about the company's next stage of growth**

Earlier this month, Hoover Container Solutions announced a new partnership with First Reserve, the largest global private equity firm exclusively focused on energy.

The financial terms of the transaction were not disclosed but Hoover's chairman and CEO, Donald Young, told *Tank Container Magazine*: "After a thoughtful process, we selected First Reserve as a financial partner to help support Hoover in its next stage of growth. First Reserve's investment in Hoover will bolster our already strong financial position and allow the company to accelerate its growth plan as well as continue to introduce innovative products and services to the market."

In fact, Hoover has already seen some major growth and expansion over the past four years through a series of acquisitions – including Container Company Ltd (Scotland), Dolphin Energy Equipment (Louisiana), Tote Tanks LLC (Alabama) and Consult Supply AS (Norway).

"Each of these acquisitions added new products and new markets to Hoover's already robust product offering and allows our customers a more full product offering in other



Donald Young

areas where they are already doing business," says Young. "Hoover will continue to look for acquisitions that will add additional products, services or locations to enable us to better serve our customers."

Hoover provides chemical tanks, cargo-carrying units and related products and services to the global energy, petrochemical and related industrial end markets. Young describes Hoover as "one of the global industry leaders in oilfield fluids container solutions".

The company operates through 15 facilities in North and South America, Europe, Australia, the Middle East and South-east Asia; it has a rental fleet of about 40,000 stainless steel intermediate bulk containers (IBCs), 8,000 cargo-

carrying units and more than 15,000 slings, GPS asset tracking units and other peripheral equipment. The company manufactures stainless steel, mild steel and poly-plastic IBCs, as well as container frames for storage and transport applications.

With its corporate headquarters in Houston, the company has manufacturing, sales, service and distribution facilities in Scott, New Iberia, Houma and Port Fourchon (all Louisiana), Midland (Texas) and Chicago (Illinois); and in Stavanger, Norway; Aberdeen, Scotland; Warsaw, Poland; Macaé, Brazil; Melbourne and Perth, Australia; Kuala Lumpur, Malaysia; and Abu Dhabi, UAE.

"All markets and customers are very important to us. However, currently our largest exposure is in North America," says Young. "We are currently experiencing the most growth in North and South America and South-east Asia."

How will Hoover adapt its operations to meet changing geographical demand?

Young says: "We always hire local people to run operations in each of our geographical markets and provide as much support as possible from our corporate headquarters or from regional hubs. Local experience, knowledge and relationships are the only ways to truly understand the different needs for each market."

"In all markets, Hoover manufactures its products to the highest standards including DNV 2.7.1, EN 120792, ISO, IMO or UN standards, whichever is appropriate to our customer's needs or specific



to the region or to the product.”

Hoover has been providing liquid handling solutions and services since 1911. The company was founded by Thomas E. Adams and first operated as the Beatrice Steel Tank Company, manufacturing culverts, stock tanks, well casings, grain bins and other farm supplies.

Over the decades the company went through numerous changes in ownership and operational focus. Along the way, Hoover created the original IBC, the Liquitote.

There have been significant changes in the past four years, starting with a management-led buyout led by Donald Young in 2010.

The Norwegian offshore container provider, Consult Supply, was acquired in January 2013, giving Hoover an additional channel for offering its offshore containers, cargo-carrying units (CCUs), container workshops and ISO tank container products.

Later the same year came the acquisition of Dolphin Energy Equipment, a leading provider of cargo and waste management rental equipment and related products in the Gulf of Mexico. Headquartered in New Iberia, Louisiana, Dolphin is best known for its offshore baskets, waste compactors, food disposal units, pipe slings and related consumables and services.

Next, in March this year, Hoover acquired Aberdeen-based Container Company, a leading supplier of cargo-carrying units for

the offshore oil and gas industry. Together with Consult Supply and Dolphin, this acquisition made Hoover one of the largest worldwide suppliers of CCUs.

As a company providing solutions through a vertically integrated model that includes design, manufacturing, maintenance, certification and cleaning services, clearly innovation is vital for Hoover. Recently the company has developed a new DNV 2.7.1 and US DOT certified mudskip (cutting box) with a patented roll-top lightweight lid that eliminates the need for climbing on the units, to eliminate the risk of falls.

“The product has been successfully introduced in Norway for the last two years and will be available in the Gulf of Mexico and other Hoover distribution/service centres in the next six months,” says Young.

When the recent financial partnership was announced, First Reserve said it believed Hoover’s products were exposed to several favourable macro

trends, including the continued demand for oilfield production chemicals, further development of offshore and deepwater oil and gas opportunities, and the continued investment in North American petrochemical facilities.

First Reserve Managing Director Neil Wizel said: “We believe Hoover has demonstrated a strong track record of providing its customers with high-quality products and services, and that the company is well positioned for continued expansion in North America and internationally.”

Young says that of all the current issues, the recent dramatic drop in the price of oil is one of the issues that will have “a meaningful impact” on the world economy – and more specifically on the energy and petrochemical world.

“It will be interesting to see where the price of oil goes in the next 18 to 24 months,” he says. “My guess is that we should anticipate a significant volatility in the price of oil over the next 12 months until supply and demand dynamics stabilise and we begin to settle into a more consistent price range that will be good for the energy industry as well as the global economy.

“As one veteran oil and gas executive told me, ‘the best thing for low oil prices...is low oil prices!’”

And finally? “We are very excited about the company’s future, as I believe in our people. No matter what you do in life, you are only as good as the people around you.”





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