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Publisher
Duvel Media
www.tankcontainermedia.com

Editor
Leslie McCune
leslie@tankcontainermedia.com

Advertising
Ed Andrews
ed@tankcontainermedia.com

Production Editor
David Badger
david@tankcontainermedia.com

Design
ginko design
hellostudio@ginkodesign.co.k

www.tankcontainerdirectory.com

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

Sadara adds to demand in the GCC

This issue of *Tank Container Magazine* focuses on the Middle East or, more specifically, the Gulf Cooperation Council (GCC) – Saudi Arabia, the UAE, Qatar, Kuwait, Oman and Bahrain.

The biggest event of intense regional significance has been the collapse - and rebound - of the crude oil price. At the time of writing (May), crude has reached a 2015 high of $68/barrel. Saudi Arabia is increasing its official selling prices to refineries in Europe and Asia in response to stronger demand, while prices to high-growth Asia - its favoured market - remain unaltered, thereby protecting its market share.

Some say that oil is still cheap compared with the past few years; others say the price rally has come too far, too fast. EOG Resources, the largest US shale oil producer, says it will resume fracking wells if oil stabilises at today's price. What is clear is that the US shale industry's ability to keep growing depends on how far, and how fast, it can reduce its costs. Judging by the continuing demand for tank containers, no-one should underestimate the rate at which costs are being reduced by good ol' Texan ingenuity – combined with phenomenally accurate seismic mapping and techniques such as pad drilling.

From a Middle East petrochemical perspective, low oil prices make no difference to the Middle East's cost base, make some difference to the region's relative global competitiveness, but make a lot of difference to the price of its products (and therefore its margins).

Tank container demand should not therefore be affected by short-term oil price gyrations, but there have been some curious contextual developments in the region. The well-regarded CEO of Saudi Aramco, Khalid Al-Falih, will become the company's Chairman, but also Saudi Arabia's Minister of Health, a portfolio previously regarded as something of an elephant's graveyard.

Saudi Aramco is to be separated from the Ministry of Petroleum and Mineral Resources as part of a wider restructuring. It is also a partner with Dow Chemical in the giant $19.3 billion Sadara project in Jubail, Saudi Arabia. This is planned to be at its full 3 million tonnes a year production rate by the end of next year, when 1.5 million tonnes a year of liquid specialty chemicals will be produced.

Tank containers are already beginning to supply raw materials to the first of the 26 production units to start up. 450 tank containers will bring in dioxidane from Solvay over the rest of the year; others are being used to import essential raw materials such as monopropylene glycol ethyl ether and 1,2,3-trihydroxypropane. The dioxidane will be used to produce epoxypropane, the raw material for the 460,000 tonnes a year of polyether polyols and propylene glycol that will be produced. Both, of course, are routinely moved in tank containers.

In this issue, we report on the GPCA Supply Chain Conference and interview Mohammad Husain, the Chairman of the GPCA Supply Chain Committee and CEO and President of Equate Petrochemical.

At the conference, Sadara's use of rail was outlined and progress on the Gulf's Sustainability and Quality Assessment System was reviewed. The system extends the responsibility of the chemical industry's Responsible Care initiative throughout the entire value chain, including inbound and outbound goods. One sub-set is road transport, a natural focus for improved standards given that one in seven truck accidents in Saudi Arabia results in a death.

You can see the feedback to the much-discussed *Tank Container Magazine* survey of GCC tank container users. This invited observations from petrochemical producers, traders and freight forwarders about the local tank container market. Operators and leasing companies were specifically excluded because of its focus on the customers' viewpoint. We accept that the survey may be unrepresentative, not least because some operators concentrate more on servicing producers rather than the short-term needs of traders and forwarders. As expected, there was good news and bad.

'Good news and bad' summarises the GCC tank market but make no mistake, for those that have invested the time and resources to get well-positioned, the good news far outweighs the bad.

Leslie McCune, Editor

We're growing, says ITCO survey

ITCO, the International Tank Container Organisation, has published its 3rd Annual Tank Container Fleet Survey.

Based on detailed research of tank container operators, leasing companies and other owners, the survey provides a qualified estimate that there are some 444,220 tank containers presently in operation worldwide; this January 2015 figure, represents an increase of 12.6% compared with January 2014.

A total of 48,200 tank container were manufactured in 2014 (up from 42,600 in 2013, and 39,700 in the previous year).

Compiled with the support of ITCO members and based on data provided by tank container owning companies, the ITCO Survey gives details of 194 operators of tank containers worldwide.

While the operator figure of 305,700 units is, numerically, dominated by global tank container operators such as Stolt, Hoyer, Bulkhaul, Newport, and Bertschi, (representing some 36% of the total fleet), the survey reveals the continuing trend of an increasing number of regional operators established in recent years.

A total of 33 leasing companies, with a fleet size of 195,000 units, are listed in the survey. The top five lessors – EXSIF, Cronos, Eurotainer, Seaco Global, Trifleet – account for around 66% of the estimated global leased fleet. However, as the majority of these tanks are leased to operators or direct to cargo shippers, leasing company tanks (with the exception of units not currently in operation) are not included in the global fleet total.

Growth in the tank container industry is reflected by the number of new containers built. The ITCO survey gives details of 18 tank container manufacturers, which produced a record number of over 48,200 new tank containers in 2014, with an estimated value of US$960 million.

This compares with 2013 which saw an increase of 12% over 2012, a year that also had a record increase in production.

Heike Clausen, ITCO President, said "The tank container industry continues its trend of stable annual growth. Investment in the industry, measured by an estimated 48,200 state-of-the-art tanks manufactured and entering the market, add up to around US$960m.

"Further investments are continuing to be made in service-provider infrastructure, information technology and the training and education of staff.

"However, the tank container market remains highly competitive, and this helps to ensure that the industry strives for the efficiencies that, in turn, lead to more cargo being safely and sustainably transported by intermodal tank containers."

The complete survey can be downloaded from the ITCO website http://www.itco.org.

New swapbodies for Eurotainer in China

Eurotainer recently received its first swapbodies designed for use in China.

These 31,000-litre capacity units are built for transport and storage of liquid products and the equipment complies with Chinese regulations for domestic tank containers.

The tank containers were designed specifically for the Chinese market. The tanks are insulated, cladded and built with a large heating surface area.

The tare weights of these tanks are lower than older swap bodies which allow for higher payloads and more efficient shipments of liquid cargoes.

The tanks are built with the latest safety features and value added components. These include a large walkway area, collapsible handrails, a safety relief valve, a sampling port, and a cleaning hatch.

Eurotainer sees a growing demand for these larger capacity containers in China.

As such the tanks were built to meet this requirement and will immediately go on lease to current clients.

Sad farewell to Suttons chairman Michael

Suttons Group has announced the death of its chairman, Michael Sutton, last month aged 66 following a short illness.

The son of founder Alf Sutton, Michael has been chairman of the logistics and supply chain company since 1987.

Working in the business since he was 19, Michael held a number positions before succeeding Alf as Managing Director in 1978 at the age of 30.

Michael oversaw the expansion of the group into new markets and territories across the world.

Not satisfied with maintaining the company's position as a leading road haulier, Michael significantly developed the company's portfolio of services, which now serves the chemicals, gases, food and fuels markets across the supply chain.

Still very much a family firm, Suttons' current CEO is Michael's eldest son, John Sutton. His youngest son Robert Sutton is the Group's IT director, and other family members sit on the group's board.

The family issued a joint statement: "It is with deep sorrow that we announce the death of our Chairman, Michael Sutton on May 8, 2015.

"He was a much-loved and respected leader, as well as a beloved father, grandfather and uncle. His presence, guidance and humour will be greatly missed.

"In the meantime, we would like to assure you that the family are determined to continue to run Suttons in the spirit of both Michael and Alf."

Den Hartogh shows good improvement

Den Hartogh's Global department in Rotterdam recently received their IMPCAS (International Marine Packed Cargo Audit Scheme) assessment and achieved an impressive score of 92%. This score shows an improvement of 5% in comparison with the achieved result in 2012 and confirms that Den Hartogh is putting serious effort in continuously improving its safety and quality performance.

During this assessment an accredited external auditor assesses the work methods of the organisation in relation to managing SHEQ aspects of their business.

The audit addresses areas such as management policy, SHEQ procedures, tank container management, operational work methods, contractor management, security management etc.

The auditor uses a standardised questionnaire to ensure a uniform approach enabling comparison between businesses/companies and publishes the results on the IMPCAS website. Chemical companies looking for new partnership in their supply chain or review their current partners on SHEQ performance can use the information from this audit in their internal risk assessment.

The auditor identified areas in which we perform outstanding or need to improve. No major issues were identified during the audit, only some minor issues that will be addressed in our continuous improvement plans.

The results can also initiate safety programmes like the Power of Safe that Den Hartogh developed and launched in 2014 in co-operation with the consultancy organisation Samurai@Work – a multi-annual safety culture programme.

The IMPCAS assessment was introduced in 1994 by chemical companies that wanted to improve the quality and safety management performance of bulk liquid shipping lines on chemical tankers. Today this scheme has expanded its scope to involve a wide variety of logistical service providers in their supply chain such as shipping companies, container terminals and tank container operators like Den Hartogh Logistics.

Hoyer invests in new Iveco truck fleet

Hoyer is investing in 34 new Iveco trucks for its Chemilog business, including one fitted to run on LNG as a pilot project.

The new vehicles all have lane departure warning systems, adaptive cruise control, an alertness assistant and sensor-operated fifth-wheel coupling.

"We are hoping on the one hand to achieve an appreciable improvement in road safety, and on the other to increase significantly the satisfaction of our drivers," said Dr Roland Pütz, director of the Chemilog business unit.

The LNG trial will start on short-distance work, taking account of the small network of fuelling sites, and is intended to give Hoyer an insight into driveability, range and fuel consumption, with a view to expanding its LNG-fuelled truck fleet once enough filling stations are available.

Bertschi takes SQAS to Russia

Bertschi has had its tank cleaning station in Nizhny Novgorod, Russia, assessed under SQAS.

The depot was set up in 2012 according to the latest European standards, and is designed to serve the chemical cluster around Nizhny Novgorod, some 400km east of Moscow.

"This cluster has a considerable potential for tank container exports from Russia," says Bertschi.

"Our investment has in the last three years seen a positive development of tank cleanings. We therefore decided to have the facility assessed according to the SQAS Tank Cleaning standard.

"Clients now have the opportunity to access the details of our safety and quality performance at each tank cleaning station of the Bertschi Group online and to evaluate the reports to the same standard."

Busier year for InterBulk Group

InterBulk Group has reported revenues of £256.3m for its financial year ended September 31, 2014, slightly down on the previous year's £271.5m. EBITDA held up well, though, at £16.7m compared with £16.2m in 2013. Loek Kullberg, CEO, said the group's main customer base, continued to grow, although European recovery was sluggish.

InterBulk's liquid bulk division enjoyed 1% more moves than in the previous year, although activity slowed in the third quarter. The company increased its tank container fleet by 3% to 10,900 units.

MCC Tank investigates stress reduction

With the extensive use of tank containers in chemicals and petrochemicals, safety assurance is a key issue.

However, stress corrosion crack (SCC) has been observed on the vessel head of tank containers in recent years and has attracted much attention from researchers.

This kind of SCC cannot be easily detected until the leakage penetrates the insulation, or until a tank container undergoes the next hydrostatic test, therefore it is difficult to prevent in advance.

Together with the R&D faculty of Tianjin University, MCC Tank has recently developed an experimental method.

By using, the behaviour of the SCC on the vessel head can be investigated; therefore the inner factors that cause SCCs can be determined.

Hence an extra facility is applied during the process of tank manufacturing to eliminate the inner factors theoretically.

MCC Tank is a wholly owned subsidiary of Metallurgical Corporation of China (MCC) which is a Fortune Global 500 company (#302 in Y2013).

MCC is biggest Chinese metallurgical engineering contractor and provider of technological upgrading and reconstruction services in metallurgical engineering with a complete industrial chain in ferrous and non-ferrous metallurgy.

MCC Tank started tank container manufacturing since January 2013 with an annual production capacity of 5,000 TEU. The workshop is located in Hangu district of Tianjin, 30km from port Xingang and 180km from Beijing capital airport.

The experimental team of MCC Tank investigated dozens of tank containers with leakage and the results indicate that most SCCs occur within the 50mm radius from the heat affected zone of girth weld on the vessel head of tank containers.

Further comparative experiments were carried out on specimens with SCC, new vessel head specimens and original stainless steel specimens by the team.

In order to determine the type and inner factors of SCC, the microstructure, the composition on the surface of crevice and the elements of the remaining corrosive substance were analysed using an optical microscope (OM), scanning electron microscopy (SEM) and X-ray diffraction. The results of experiments indicate that there are three main factors causing SCC as following:

- There is a Cr-rich phase precipitating from the austenitic stainless steel (Stainless Steel 316L) during the service life. Cr does not diffuse easily thus the areas around the second phase become Cr-depleted and are sensitive to corrosion.
- With exposure to chloride ions, pitting and inter-granular corrosion

will appear in Cr-depleted regions, which leads to crevice corrosion under the influence of residual stress.

• The decrease of Cr and segregation of S element on the tip of the crevice increase the corrosion susceptibility of 316L SS.

In other words, there are three prerequisite conditions for SCC on austenitic stainless steel 316L:

1) Nature of chemical transport: chance of contact with a corrosive substance, eg, chloride ions

2) Nature of SS 316L: Microstructure susceptible to SCC

3) During manufacturing process: tensile stress

SCC occurs under the combined effect of the above three prerequisite conditions, and the absence of each of the three conditions can hinder the stress corrosion cracking.

As a tank manufacturer, MCC Tank aims to eliminate the tensile stress accumulated from applied stress or residual stress caused by heat treatment.

This can be achieved by converting the tensile stress into compressive stress during tank manufacturing process.

An additional ultrasonic facility with an efficiency of 9m per minute is used in the tank manufacturer's workshop which can make the conversion.

So far the data show that the chance of SCC on tank containers can be reduced by up to 10 times by the new MCC technology which is patent-protected.

Tank Container Village keeps on growing

This year's ITCO Tank Container Village - organised as part of the transport logistic 2015 exhibition in Munich, Germany, last month – was the biggest one so far arranged by the association.

Comprising 56 exhibition stands and more than 60 ITCO members in total, the 2015 Village represented a 15% increase over 2013, which in turn, was 20% larger than in 2011.

The 5th May evening ITCO Welcome Reception was sponsored by Trifleet Leasing and officially opened by Philip van Rooijen Managing Director.

Outokumpo launches new categorisation

Outokumpu has announced a new way to categorise its wide range of stainless steel products according to performance, such as strength, heat-resistance and corrosion-resistance,

The new approach will help customers to identify and compare different product options and so find the best product for their specific performance and cost-efficiency needs.

Said Outokumpu CEO, Mika Seitovirta: "We're constantly striving to offer the best solutions for our customers. Customer feedback inspired us to rearrange our products according to performance characteristics rather than their chemical composition and so create an easier way for customers to explore our comprehensive portfolio."

The new structure features nine product ranges, which highlight the key properties of their respective products.

In the Classic product family, there are three ranges – Core, Moda and Supra.

The Pro product family includes six ranges: Forta for Duplex and other high-strength needs, Ultra for extremely corrosive environments, Dura for high hardness, Therma for high heat-resistance, Prodec for improved machinability and Deco for special surfaces.

To further facilitate exploration of the portfolio, Outokumpu has introduced an interactive online tool.

Outokumpu launched its new product categorsation at Outokumpu Experience, at the end of May.

VTG is expecting greater things in 2015

VTG AG has reported increased revenue and profit for 2014, with its railcar division particularly strong.

Group turnover rose by 4.4% to €819.3m and EBITDA was up 4.0% at €191.0m.

VTG expects further improvement in its figures for 2015 following the acquisition of AAE.

"We have successfully built upon our business in 2014 and, in purchasing AAE, we have taken a

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t +32 (0) 3-545 8580
f +32 (0) 3-545 8589
e be.antwerp.tcs@sgs.com

considerable strategic step," said Dr Heiko Fischer, CEO of VTG AG.

"In the coming months, we will set our focus on integration, develop sector and customer-oriented service packages and bundle our procurement and service activities with the intention of generating significant increases in productivity."

Specialist Newport opens office in India

NewPort has opened an office in Mumbai, India. The tank specialist says it is the first global tank container operator with an own office in the fast-growing country, with the goal to expand its position in the Indian market.

NewPort sees great potential in the Indian market.

"Opening NewPort India supports our global growth strategy," said CEO Michael de Rijk. "Our goal is to get closer to our customers, especially in key markets around the globe.

"Through our own global office network, we're able to develop a stronger relationship with our customers, which will allow us to support their strategic initiatives."

Rob van Mourik, vice-president EMEA, added: "Until last year NewPort was working with a local agency in India so we know the market well. More importantly, we see the potential to develop our presence in the Indian market.

"Our experienced local team enables us to ensure consistent quality service."

NewPort India Pvt Ltd is sited at B205, Dynasty Business Park Andheri, Kurla Rd, Mumbai 400056.

New design as interest in swap containers grows

Trifleet has become the first lessor to offer new lightweight frame swapbody tank containers

Trifleet Leasing, the largest owner-managed tank container leasing company in the world, has added new lightweight frame swapbody tank containers to its fleet.

Within the coming 12 months Trifleet will add to the fleet a total of 45 lightweight swaptank containers; each of which have a volume of 35,000L and four sets of the new V-Aerofoil baffle inside.

These new swap tank containers will lower transportation costs and can lead to a reduction in the amount of transport required. Less transport would have a positive influence on the environmental impact.

The technical innovation of these swaps is found in the reduction in tare weight by a smart designed robust container frame, which is constructed in such a way that it only adds mass where and when needed for strength and leaves mass out where it is not required. In this way, the tare weight can be reduced by up to 10% for a swapbody.

The exact weight reduction per swap depends on size and extras. In general, swap tank containers are used as a cost-effective way to transport goods (short distance) via road, rail and sea; in particular for light cargoes of chemical and food grade companies in the European market.

Interest in swap containers is also growing in China and the Middle East. Compared with standard ISO tank containers, swap containers have bigger tanks and therefore offer more tank capacity.

The new lightweight swaps offer even more pay load, resulting in more volume per transport and less transport costs per litre. With regards to environmental impact, the new swap tanks can lower the amount of transport necessary, and therefore reduce congestion and emission.

"At Trifleet Leasing, we are committed to providing innovative tank containers that are ideally suited to our customers' requirements," said Philip van Rooijen, Managing Director of Trifleet Leasing.

"Not only will they reduce transportation costs for our customers, the swaps also allow companies to reduce the number of transports for the sake of the environment."

The process of engineering to save weight on swap tank containers is a difficult one, given the many rules and high-quality requirements regarding the lifetime of a tank.

The new swap design is by South African manufacturer Welfit Oddy.

New man at the top in Europe for Girard

Girard Equipment has announced the appointment of Martin Laverty as its Managing Director of European Operations.

Mr Laverty brings a wealth of experience to his new role with over 23 years in the tank transport industry.

He has a mechanical engineering background enabling him to provide input on new product design and development as well as new product offerings.

"The UK has become one of the largest markets for us, "said Tim Girard, President of Girard Equipment.

"Martin's extensive knowledge and experience along with his proven ability to build relationships will be invaluable to our customers and the continued international growth of our company."

New regional director for the Americas

Suttons Group has appointed Steve Lonsdale as regional director for the Americas.

Moving from his previous role within Suttons as director of network operations, Mr Lonsdale is now based at Suttons' New Jersey offices and will be responsible for leading the company's development and broadening the number of services it provides in the Americas.

He has more than 25 years' experience in tank container logistics and supply chain, during which he has held a number of key senior operational and sales focused roles within Suttons.

Not just any logistics – it's M&S Logistics

M&S Logistics has been identified as one of London Stock Exchange's 1,000 Companies to Inspire Britain. The report is a celebration of the UK's fastest-growing and most dynamic small and medium sized businesses.

To be included in the list, companies needed to show consistent revenue growth over a minimum of three years, significantly outperforming their industry peers.

M&S Logistics Managing Director David Kew attributes the company's success to "the global management team which, along with dedicated, driven and experienced colleagues, enables the company to have a great understanding of the different markets in which it operates.

"We all pride ourselves on our ability and willingness to provide excellent customer care while focusing on cost efficiencies and ensuring high levels of quality and standards are maintained".

Xavier Rolet, Chief Executive, London Stock Exchange Group said: "This report is a significant part of London Stock Exchange's broader campaign to support UK high-growth companies in their journeys from start-up to stardom and to create an entrepreneurship revolution. I'm delighted that a strong alliance between UK Government, financial market participants, investors, entrepreneurs and companies has been created to support these inspiring businesses."

WEW supplies catalyst tanks to Dow Chemical Co

One of the world's leading chemical companies, Dow, has put its faith in WEW to supply specialist tanks to transport catalyst.

WEW's solution involved building a robust 5000 litre tank inside an ISO style frame and fitting it with a specialist agitator.

"WEW worked closely with us in designing the solution for transporting the catalyst. It was very much a partnership between the two companies which has resulted in a tank very much fit for purpose," said Gaston Garayzar from Dow Chemicals.

Dr Ulrich Bernhardt, Managing Director of WEW, said "Dow quite rightly demanded a very high level quality transport solution which met or exceeded international transport requirements.

"Our in depth experience of these enabled us to provide them with a solution to their requirement."

The five-cubic-metre units have been designed to fully meet the ATEX requirements. WEW worked closely with its suppliers to source the right agitators and valves before integrating the components into the tank manufactured at the company's facility in Weitefeld, Germany.

Flying all the flags

Director Richard Heath tells Editor Leslie McCune about TALKE's plans to broaden its tank container services right across the GCC region

Leslie McCune: TALKE was one of the first European 3PLs to enter the high-growth Gulf Cooperation Council (GCC) region, comprising Saudi Arabia, Qatar, UAE, Kuwait, Oman and Bahrain. How, and where, has it developed?

Richard Heath: Having started in Saudi Arabia, we progressively developed business in all GCC member states, with the exception of Kuwait. Kuwait has not presented any real opportunities for us so far but we are, of course, keen to fly all the GCC's flags.

We started with the first outsourcing of on-site plastics logistics at petrochemical producer, Tasnee, in Saudi Arabia. Then, as the benefits of outsourced logistics became clear, there was significant growth of the logistics outsourcing concept. Our group now handles more than 10 million tonnes a year in the region.

It has become even more interesting now that the speciality chemicals market has started to develop. The largest part of our GCC business is related to materials handling and we are now able to bring in our expertise in liquids, particularly drumming and services for tank containers.

The on-site outsourcing concept has now also been deployed for liquids and we are currently handling three different sites in Saudi Arabia. At these sites, we load and unload tank containers, have drumming facilties and even operate a pastillation unit (which granulates liquid products).

LM: Are there any unique challenges posed by joint ventures in the region?

RH: A joint venture anywhere in the world poses challenges if there are differences in business ethics, lack of alignment on targets, etc. The key element is to take enough time to get to know your partner and make clear professional agreements from the start.

The human angle is also important and whilst there are inevitable natural cultural differences between Europe and the GCC, mutual understanding and respect will get you a long way. Personally, I have been doing business here for around 15 years and thoroughly enjoy the experience.

LM: What are the main day-to-day differences that TALKE experiences operating within the individual GCC member states?

RH: People do, of course, differ somewhat from country to country, but if you do your research well and take enough time to meet and understand people, differences need not become issues but, instead, strengths.

The key difference in doing business is the different levels of infrastructure and human resources between each GCC country. Dubai, for example, has a well-linked international port offering excellent connectivity to the world, combined with modern port facilities and customs systems. As a result, some of our customers prefer to use Dubai as the hub for their exports coming out of other GCC countries.

Human resources are a fundamental part of the business in the region and the challenges vary from one country to the other, depending on the local population and the requirements for localisation.

Unfortunately, logistics is not always seen as an attractive sector for young people and attrition rates can be high. However, this is a challenge to work on and we invest a lot of time developing HR programmes and make other efforts to attract young talent.

LM: What are TALKE's key priorities?

RH: Safety is, without doubt, the number-one priority. We work very hard on ensuring that the same high standards that we apply in Europe are also applied in the GCC.

We strongly support safety-related initiatives such as the implementation of Gulf SQAS by the Gulf Petrochemicals and Chemicals Association (GPCA), where I am happy to be part of the Technical & Accreditation Committee. There is still a lot of work to be done on safety in general but this will - and must - improve significantly.

Of course, running a healthy and sustainable business is a high priority. 'Good quality for a fair price' is its basis. In an emerging market, you do sometimes see newcomers providing dubious pricing to gain a market entry, but so be it. We have also seen this same business come back to us at a later stage.

LM: What are TALKE's challenges and opportunities?

RH: Our day-to-day challenges can be classified as 'normal'. Staffing and climatic conditions would probably be the biggest challenges but, given our experience in the region, these are manageable. We monitor both the business and the geopolitical environment closely but feel comfortable to date.

In terms of opportunities, I would come back to my previous comment on the development of specialty chemicals. Whilst we are not a deepsea tank container operator, we obviously have a liquid chemicals heritage and we are working closely with tank container operators to support their movements in the region with our specialist services.

LM: Has TALKE seen its Middle East operations affected by the fall-off in the price of crude oil?

RH: So far, not directly. Most of our clients are still producing at normal rates, although the impact often comes further down the supply chain. For us, for example, we would see warehouses beginning to fill with slow-moving stock.

Middle East exports remain pretty much at normal levels so our teams here are still very busy. Of course, it is no secret that manufacturers are under a lot of pressure and we do what we can to support them with efficient, streamlined operations.

In an environment of medium-term contracts, the impact may become apparent later. I think our biggest setback would be if large, new GCC projects were shelved – we have already seen this happening.

LM: What role do tank containers play in TALKE's overall Middle East operations?

RH: An increasingly important one. We are loading and handling more and more tank containers in the region.

A key element is our relationship with NewPort. Our Saudi Arabian company, SA TALKE, has been the agent for NewPort since 2009. Driven by NewPort's strong growth – and the increasing importance of Saudi Arabia for NewPort – they wanted to have their own entity in the kingdom so we agreed to set up a joint venture.

Starting a business on your own in Saudi Arabia is not easy but the joint venture offered a real win-win solution as it leveraged our Saudi Arabian expertise, added scope to each company's business offering and created a complete supply chain solution.

LM: Does TALKE own or lease any tank containers in the GCC?

RH: We do not currently own or lease tank containers. Instead, we work with our partners and, in specific cases, we bring European containers over for dedicated business.

We did this for a number of years for MDI distribution through our Omani company for a key client. MDI was moved from Sohar to several GCC countries. We solved the challenges posed by multiple border crossings and also implemented ISOPA (Isocyanates Producers Association) standards for our own Omani drivers.

LM: How are the plans developing for a new tank container depot in the region?

Richard Heath spearheaded TALKE's move into Saudi Arabia in 2003 and is the Director Middle East and Asia for the ALFRED TALKE Logistic Services group. He is a board member of TALKE in Germany and works from the regional office in Bahrain.

He is responsible for operations - and developments - in Saudi Arabia, Qatar, Oman, the UAE, India and China.

Established in 1947, TALKE is a specialised petrochemical logistics service provider with expertise in the packaging and handling of chemicals in customers' plants or in TALKE's own strategically-located facilities in Europe, the Middle East and Asia.

RH: It is no secret that we have plans to extend our existing dangerous goods chemical operations in Dubai by adding a modern tank container depot, with a cleaning station, repair facilties, etc. These plans are at a very advanced stage. We are considering similar potential options in other locations but cannot share specifics at this time.

LM: How would a new tank container depot be different to others in the UAE and the Eastern Province of Saudi Arabia?

RH: Whatever we do in the UAE is under the motto of our joint venture company, RSA-TALKE: "Raising the bar in chemical logistics in the UAE." The chemicals warehouse we opened in 2014 is state-of-the-art and, in our opinion, something the Dubai and UAE market urgently needed.

The Eastern Province of Saudi Arabia has seen some improvement in standards, but I am personally still horrified to see how some highly hazardous products are stored in tank containers at what are no more than simple yards at transport companies.

We know that some important international players have plans for new tank container depots. These are at varying stages of development and I can only assume that they will also build and operate in line with high international standards, as will be the case with TALKE.

If such capacities become available all the parties will be contributing to a quantum leap in improved standards in the kingdom.

LM: Does TALKE see a greater move to outsourcing logistics assets and services in the GCC?

RH: Outsourcing has undoubtedly increased tremendously in the last decade and I believe that this will continue.

The nature of the increasingly more specialised chemical products in the GCC will mean that product management know-how is crucial. A key factor is also the synergy with other operations in the same location.

For on-site facilities, I believe that the assets will mostly remain with

the manufacturing sites and we – the LSPs – will continue to provide materials handling equipment.

When we started operations in Jubail in Saudi Arabia, we took a calculated risk by building our own "multiuser" site in the commercial port. This was an entirely new concept. Providing a company's own assets for such a business needs to be a well thought through decision, based on local market knowledge.

LM: Will TALKE be involved with the giant Dow Chemical/ Saudi Aramco Sadara project in Jubail, Saudi Arabia?

RH: There is no doubt that it is an exciting project. Unfortunately, the on-site operations tender was not awarded to us but a site of Sadara's magnitude brings a multitude of different business opportunities and challenges. We have already secured business in both Saudi Arabia and the UAE and maintain an important dialogue with Sadara, Dow Chemical and Saudi Aramco in several fields.

LM: Is TALKE involved in the the GCC rail network project?

RH: As a company which develops multimodal solutions, we follow the plans with great interest and will certainly be part of it when it happens.

From an infrastructure point of view, we will be able to offer some interesting connectivity to our operational sites.

We have not signed any MoU's with rail operators yet; I prefer to develop solutions that are tangible and we will continue to monitor the developments and take action in due course.

LM: The GCC's petrochemical supply chain infrastructure has, and will, expand dramatically. What do you see as the major challenges?

RH: From the LSP perspective, I think our logistics 'community' can, and will, develop the very specific infrastructure needed, provided viable business cases can be developed for our customers.

Public infrastructure such as roads and ports have seen excellent development in some locations in the GCC but there is still quite some work to do elsewhere.

LM: Can the GCC rail network operate efficiently without some form of 'Customs Union'?

RH: As a logistics person one thinks logically, so my answer would be no. But I don't think it is only about rail; generally, we need more efficient Customs in some GCC countries because the easier movement of goods will always be a vital element of a lean, efficient supply chain.

On the right track...

The days of demurrage could be numbered as track and trace systems become everyday tools in the tank container sector. Wendy Pascoe reports

It will be good news for some (the customers) but bad news for operators, because tanks on demurrage increase fleet utilisation and demurrage revenues are often a significant contributor to a tank container operator's profitability.

Track and trace devices on containers are now so readily available, and accurate, that they can inform a customer or tank container operator within seconds of a tank sitting idle.

Gone are the days when staff had to be sent to the furthest recesses of a distant port or depot to physically check the containers and then report back. Different time zones, the absence of email and unreliable phone lines often meant that information on the location of tank container wasn't available for days. Now, the information can be available in real time, 24 hours a day, via a few clicks on a keyboard.

The technology offers an improved capability to manage supply chains – good news for petrochemical companies, which are delivering increasingly complex products with shorter lifecycles and lead times to customers who are demanding faster results and more responsive service.

For the track and trace customer, the key to successful business is ensuring that the product – whether it is bananas or plutonium – is in the right place at the right time at the right cost and in the right condition in order to meet customer demands.

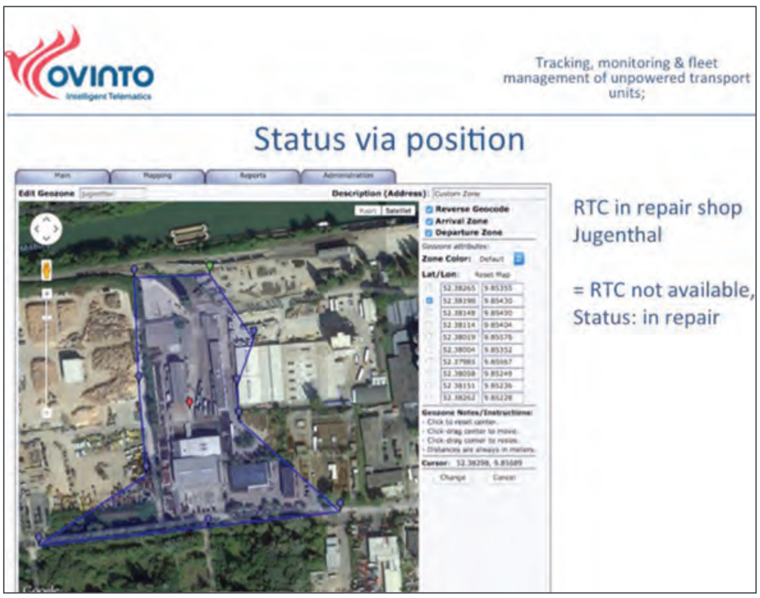
At the core of most global petrochemical supply chains is an Enterprise Resource Planning (ERP) tool. Data, including that from track and trace devices, feed in to help build the aggregate picture.

Globalisation and outsourcing have added to the complexity, resulting in more diversified supply chains. The number of supply chain partners, as well as the amount of geographic dispersion, has increased dramatically as a result. However, a supply chain manager can now easily track orders in transit and can check if key milestones such as port arrival and customs clearance have been met.

Importantly, they are now capable of checking the condition and security of the cargo at the same time.

Track and trace allows petrochemical producers to respond quickly and efficiently to a wide range of unplanned and potentially disruptive supply and demand events. Supply-related events include production bottlenecks, fulfilment delays such as port strikes and customs delays, and supplier shortages. Demand-side events can include orders that are greater or less than forecast and changes to orders that have already been placed.

But any track and trace system



has to earn its keep. Customers generally use them where the cost and implications of any delays in delivery outweigh the cost of acquiring and operating the track and trace device. In the global chemicals sector, trackers that report continuously in real time are generally used in one of three scenarios.

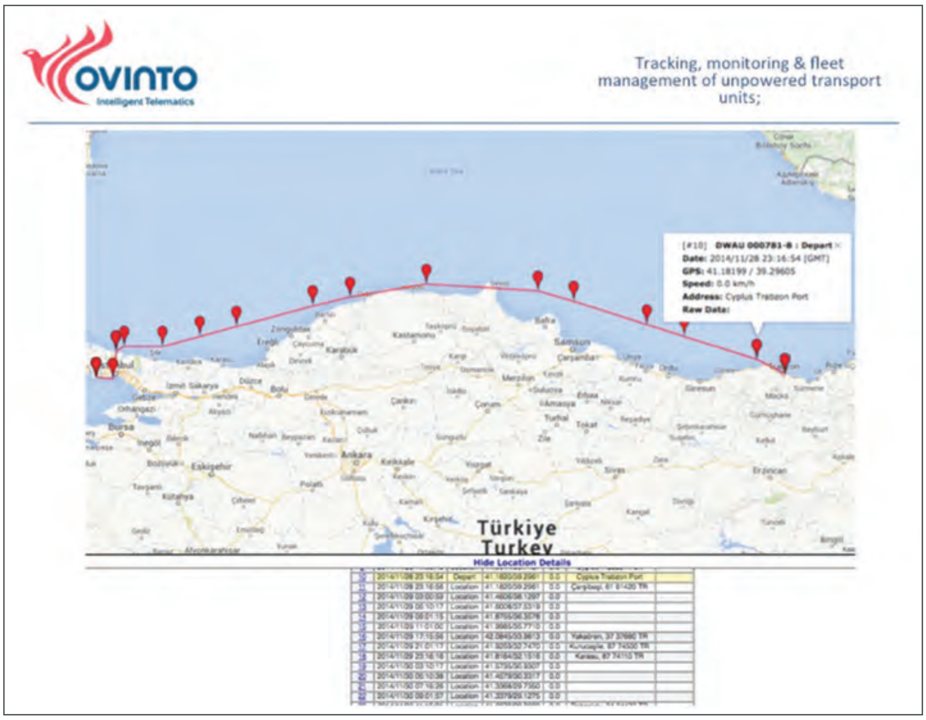
The first is where the cost of tracking is incidental compared to the cost of failing to deliver on time. The second is where the cargo is of high value and the third is when the cargo is hazardous.

Belgium-based Ovinto supplies satellite-enabled track and track devices, allowing global coverage, and particularly in locations where there is no or limited traditional telecoms coverage. Its CEO is Frederick Ronse.

He says: "The only goal is to maximise the supply chain. The customer always has temperature control and position in order to help him do this. Knowing when containers are idle – or when they have passed key milestones – reduces empty time. This can reduce voids, enabling a high utilisation of the container, which often money in the customers' pocket."

"It is possible to geofence [essentially an electronic cordon] a depot or other location. For example, a little dot shows you your container is in the repair shop. You set a geofence. An alert sounds when the container is moved and you know it is available again."

"And the track and trace device reveals temperature and shock. You can pick up that perhaps the tank cleaners, under pressure to complete quality cleaning quickly, are using incorrect bars of pressure. They are cleaning the tank in the wrong way. It is overheating. They are ruining my tank. The cost of that track and trace device



was peanuts in comparison."

Ronse says that, until recently, the system worked as it did 100 years ago.

"Say your office is only on the same time zone as where your container or wagon is for one hour a day. Someone has to go and check manually. They will never get back you within an hour. All of a sudden you have lost a whole business day.

"It is about optimising the logistical supply chain. You can do it using pen and paper. You can wait to hear if your tank containers are loaded, wait to hear if they have been handled in Jeddah or Dammam perhaps, and wait to hear they have been loaded on a boat, but that all takes time.

"It is business intelligence. As a customer it saves you money and therefore makes you money."

Ronse says track and trace devices were not always construed as being in the best interests of container leasing companies because, logically, the demand for tank containers would decrease as the customers' supply chain management becomes more efficient.

He says: "Every leasing company and every operator knows that when a customer's assets are standing still, it is still bringing them in money. It is an important bottleneck."

"Some will make some concessions, handing back some containers. Increasingly, some are offering to do the asset management on behalf of the customers where the promise is that they will ensure they don't pay for more containers than they actually need.

"They have calculated that if you raise rotation, you raise margin. It is all about how to make your business more profitable.

"Customers know about demurrage and they hate it. Operators and customers can, however, work together."

Eurotainer is a major player in specialised tank container leasing. It claims to provide a better service for the end user, the customer, by taking over the outsourcing of tank management from other tank operators.

It says that, since the start of its Fleet Service Management Programmes, it has delivered a total of $4 million in customer savings.

It does this via clients outsourcing the maintenance and repair of their tank container fleets to Eurotainer.

There is a global shared document system and GPS tracking/monitoring services. Under the programme, Eurotainer says that those customers that have taken advantage of it have realised significant cost savings compared with managing the maintenance of their fleet on their own.

The programme means that customers see outsourced tank container testing and maintenance, GPS/cellular asset tracking technology and telemetry systems for product monitoring. It leverages Eurotainer's tank container maintenance and repair expertise and global buying power for parts, labour and services.

Rotterdam-based Den Hartogh Logistics is a well-known logistics service provider for the petrochemical industry. It operates about 7,500 tank containers, of which 95% are owned and less than 5% is leased.

It says its customers are generally most focused on potential losses caused by delays and the impact at production plants.

Global Fleet Manager Frank Gerrits says some customers, with very specific products, demand trackers on their containers. The type of customer, product and destination will determine whether they require GPS or satellite for global and/or off shore movement.

Gerrits says: "When customers do require track and trace, their main concern is location and temperature. They prefer access to a portal where they can see the data in real time."

He adds that benefits to their supply chain management are generally of less concern than the security of their cargoes.

"Again, the customers' main concern is location and temperature. This is because their products are either extremely dangerous (explosive, toxic and/or corrosive) or could cause plant downtime due to late delivery. The downtime of the tank container itself is of lesser concern."

Gerrits says they use track and trace devices on their containers in order to provide a service to their customers. However, the devices are also of benefit to them as an operator.

"It gives us a real time location for the tanks and it avoids misuse of them.

"At the moment, in terms of cost benefits, we see it as an investment in the future. But, by working with Ovinto, we may be able to develop cost saving applications.

"For the future, we see this service becoming cheaper as the number of track and trace devices increase. This will become a much more common practice in the future."

Customers are also able to use data from track and trace devices to ensure that all activity matches the invoices they are receiving. Ronse from Ovinto says it is a massive benefit and a big leap forward.

However, at the moment it is difficult to put a price on the value of track and trace devices.

"We are still in the measuring phase of benefits. We need to monitor zero time spent over a period of time to compare. You need time, assets and data to do that."

Ronse adds that you need quality data gathered reliably over time and in different conditions .

"If you put garbage in, you get garbage out."

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Tracking, monitoring & fleet management of unpowered transport units;

Return

		Cost unit	Frequency	Cost	Improvement	Benefit
Cost reduction	Damage & maintenance	Burned Brakes	8%	15.000,00 €	100%	1.200,00 €
		Overpressure valve	7%	5.000,00 €	100%	350,00 €
	Preventive maintenance	Total maintenance	100%	680,00 €	15%	100,00 €
	Time efficiency	Manhours	100%	90.000,00 €	0,20%	180,00 €
	Safety	Disaster risk	0,05%	20.000.000,00 €	50%	5.000,00 €
	Rental	Rental fleet	100%	18.250 €	7%	1.277,50 €
	Higher Wagon rotation	Ebit/wagon	100%	547.500,00 €	3,60%	19.710,00 €
	Total					26.267,50 €
	Investment					600,00 €
	Return					25.667,50 €
	%					4277,9%

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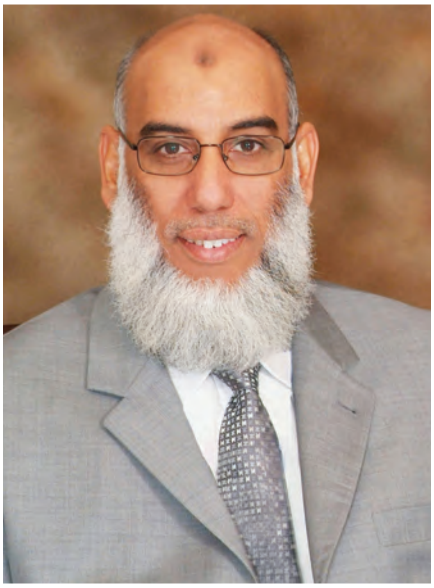
A culture of teamwork

Mohammad Husain, CEO and President of Equate Petrochemical in Kuwait, and Chairman of the GPCA's Supply Chain Committee, shares his views with Editor Leslie McCune



Leslie McCune: What is the status of Equate's product portfolio?

Mohammad Husain: As Kuwait's first international petrochemical joint venture (JV), Equate is the owner and single operator of a number of production units in Kuwait. These are part of the Greater Equate JV which includes The Kuwait Olefins Company (TKOC), The Kuwait Styrene Company (TKSC), Kuwait Paraxylene Production Company (KPPC) and the polypropylene plant owned by our shareholder, Petrochemical Industries Company (PIC).

These produce ethylene (1.8 million tonnes p.a.), polyethylene (825,000 tonnes p.a.), ethylene glycol (1.2 million tonnes p.a.), styrene monomer (450,000 tonnes p.a.), polypropylene (140,000 tonnes p.a.), benzene (393,000 tonnes p.a.), paraxylene (829,000 tonnes p.a.) and heavy aromatics (80,000 tonnes p.a.).

Our main polyethylene business lines are Linear Low Density Polyethylene (LLDPE) and High Density Polyethylene (HDPE).

LM: What are Equate's key priorities?

MH: Equate aspires to maintain overall sustainability within a framework of global innovation, embodied by our "Partners in Success" slogan. We aim to embody sustainable excellence in every sector of our business. In addition, Equate seeks to maximise the added-value of partnerships and that has, for example, flourished into solid partnerships with plastic manufacturers. This has led to a sales increase in Kuwait of over 400% since 1998.

LM: What are Equate's challenges and opportunities?

MH: As elsewhere in the region, the main challenges relate to human resources, feedstock availability, market fluctuations, supply chain demands and infrastructure suitability. In terms of opportunities and priorities, we work hard to foster a culture of teamwork, develop our employees, have constructive innovation, improve overall excellence, build strong partnerships with all stakeholders, contribute more to the local and global economy, as well as be a valuable member of the community.

LM: Who are Equate's shareholders?

MH: The company represents a partnership between Kuwait's state-owned PIC, Dow Chemical Company (Dow) and Kuwait private sector companies, Boubyan Petrochemical Company and Qurain Petrochemical Industries Company.

Equate benefits from Kuwait's human resources, geographic location, feedstock, and infrastructure with technology and industrial expertise.

LM: How has Equate been affected by the fall-off in the price of crude oil?

MH: It is well known that crude oil prices have an impact on the global economy as a whole. When oil prices fell, all commodities - including petrochemicals - had a shift in their prices. However, despite a 40% fall in the price of crude oil, the decrease in the prices of polyethylene and ethylene glycol were less than 20%.

LM: What role do ISO tank containers play in Equate's operations?

MH: Equate uses ISO tank containers for over 25% of its imports of chemical raw materials from a number of regions around the world, such as North America and Europe. Tank containers play a critical role in the petrochemical product portfolios for all manufacturers, including Equate.

LM: Does it own or lease any ISO tank container, or does it rely on third-party providers?

MH: We do not own or lease any tank containers. The material is simply shipped by the supplier to a port in Kuwait, where it is handled by a freight forwarder, which then forwards the containers to our plants.

LM: Have the shallow waters at the head of the Gulf posed any supply chain difficulties for Kuwait's petrochemical exports or inbound project cargoes?

MH: There are no problems for Kuwaiti petrochemical exports and imports as our geographic location has ample depth and accessibility to the Gulf.

LM: With the Gulf region witnessing several notable petrochemical projects, how is Equate planning on maintaining its presence?

MH: Competitive advantage in our industry is not only based on production capacities. A number of other elements are important, for example, excellence in product quality, supply chain, customer service and technical support.

One example is the development of a new grade of LLDPE, enhancing its clarity and reducing the blocking properties of plastics manufactured using this grade. The applications include bags for vegetables, fruits and bakery. The cost of manufacturing the bags is also reduced.

LM: When the GCC rail network is created, would Equate consider railing ISO tank containers straight through to Salalah or Sohar and so avoid the transhipment costs and time at Jebel Ali?

MH: The GCC rail network would serve Equate's strategic efforts to create added-value at all levels. While we only utilise ISO tank containers for imports, not exports, the supplier determines the shipping line as per the contractual agreement in terms of delivery date, quantity and others.

LM: Equate has been a stalwart supporter of the GPCA since its inception in 2006. You are a board member and Chairman of the GPCA Supply Chain Committee. What are the committee's priorities?

MH: The Supply Chain Committee was established in July 2008 to provide GPCA members in specific, and the region's supply chain community in general, with the opportunity to analyse the strategic, operational, environmental and human capital linkages that exist in supply chains.

The committee seeks to advocate and share best practices and we welcome the industry to our annual Supply Chain conferences where the region's main players and key experts share their insights into supply chain management and models.

LM: What were the main themes of the GPCA Supply Chain conference in May?

MH: The theme for this year's conference was "Strengthening the Supply Chain Backbone – Paving the Way Forward for 2020." It explored in detail the strategies that the region's governments and industry are implementing, or looking to implement, to improve accessibility to and from the region and to meet the Gulf's economic development goals for 2020.

LM: The GCC's petrochemical supply chain infrastructure has, and will, expand dramatically. What are the major challenges?

MH: Despite increasing exports of petrochemicals, which are the second largest source of income after petroleum for Gulf countries, the industry is still facing serious supply chain challenges such as the availability of talented human resources, port congestions, inadequate infrastructure and unstable market conditions. Devising innovative solutions to overcome such challenges is a priority.

LM: A GCC 'Custom Union' was planned for 2015. Can the GCC rail network operate efficiently without it?

MH: Having the unified rail network requires a great amount of collaboration and coordination for it to truly be a success. The rail network would play a role in supply chain cost cutting if it becomes the least expensive shipping method and offers good lead times.

A Gulf Customs Union would serve in facilitating a number of matters relevant to regulations and legislations of exports and imports, which would in turn reflect on the rail network and other means of shipping.

Investing in the depots

The demand for ISO tank containers and the supporting infrastructure of tank container depots in the GCC is robust, with rising demand for both equipment and maintenance and repair services, reports James Graham

Dubai, for instance, is an increasingly important hub for international chemical logistics trade and will soon host the new TALKE tank container depot. When completed, it will be the most technically-advanced tank container depot in the UAE.

A key driver of tank container demand in the Middle East - and especially in the GCC - has been the petrochemical sector. The resulting demand for associated terminal services such as cleaning and maintainance and repair (M&R) has been met by depot operators such as Al-Barrak Group, Globe, Kanoo Terminal Services (KTS) and the Joint Tank Services (JTS). All have invested in their depots.

Dammam-based Al-Barrak Logistics has invested in a tank container cleaning station at its Dammam terminal to clean and maintain ISO tank containers. The facility features a computerised control system that can be run under automatic or manual control. It is monitored 24-hours a day, either directly or remotely.

The cleaning station performs several procedures including chemical cleaning; hot pressurised water; cold pressurised water; vapour removal; tank drying; tank purging; test leaks; tank heating and steam out.

Outside the facility, jet guns clean the containers and the pressure testing of tanks takes place using compressed pressurised dry air. Cladding, patching and welding repairs also take place.

KTS has been supporting the ISO tank container business in the Middle East for nearly 40 years. Headquartered in Dammam, Saudi Arabia, the company has depots in Dammam, Jubail, Riyadh and Jeddah. It offers a "one-stop depot solution" for tank container operators and leasing companies including storage, repairs, cleaning, reefers, logistics, tank cleaning, inspection, conversions, leasing and testing. Its box container repair facility allows standard ISO box containers to be repaired to IICL (The Institute of International Container Lessors) standards.

The steam heating of products is routinely undertaken and KTS' cleaning certificates are recognised worldwide. The company is planning a geographic expansion.

KTS's inspection and testing services include the statutory 2½-year hydrostatic and pneumatic periodic tests. Leak testing is also provided. To maintain professional standards, KTS has close relationships with major industry surveyors such as ABS and Bureau Veritas.

The company also maintains a significant stock of spare parts to avoid the expensive downtime that could result from spares being air freighted or shipped from distant sources.

The GCC is in the middle of a significant expansion of ISO tank container depots. RSA-TALKE, a joint-venture between Dubai-based RSA Logistics and Germany-based TALKE Group, is planning to build a large dangerous goods container terminal in the Jebel Ali Free Trade Zone (JAFZA) in Dubai, UAE.

The facility is designed especially for handling liquid chemicals in ISO tank containers and will have a capacity of 1,800 TEU.

It will be the most advanced in the UAE and, maybe, the GCC.

The integrated logistics solutions for liquid chemicals will include M&R and various filling and re-filling capabilities. The company says the container terminal will be a useful addition to its new pallet storage facility and will comply with the same high safety standards. It is designed for the same Dangerous Goods classes (i.e. Class 3, 4, 5, 6, 8 and 9).

The need to support tank container activity in the region led JTS to expand its depot in Jebel Ali Free Zone (South). JTS was established in 1998 in Jebel Ali Free Zone North, next to DP World's container terminal. The 5,000sq metre facility was one of only a handful of tank cleaning and service depots in the region. These included Kanoo Terminal Services (KTS), a joint-venture between APM Terminals (APMT) and Yusuf Bin Ahmed Kanoo.

Operations at JTS's depot include M&R and container cleaning. Inspection standards adhere to standards laid down by the International Tank Container Organization (ITCO). These include the cleaning of Class 3, 8, 9, 4.1 and 6.1 and non-hazardous equipment; the cleaning of difficult cargo such as resin and synthetic latex; the cleaning of intermediate bulk containers (IBCs) and road tankers. There are 12 cleaning bays and six spinning heads in operation but no capability to clean MDI.

Repairs and testing of containers are also carried out. Repairs can include structural and shell maintenance as well as statutory periodic testing at 2½ and five years, as required by IMO legislation. Pre-trip inspection and leak-checks are also offered.

Customers include some of the most prominent tank container operating companies and leasing firms, including Hoyer, Bulkhaul, UTT (Interbulk), Den Hartogh, NewPort, Goodrich, Fourcee, Suttons, VOTG and Stolt. Leasing company customers have included

Cronos, Seaco, Exsif, TML, Trifleet, Tankspan, Multistar and TAL.

IHS, a business information and analytics provider, claims that petrochemical investments will continue to drive liquid chemical exports from the GCC and that the chemicals sector will grow faster than other key industries in the region, including oil and gas, transportation, defence and banking. China will continue to be the biggest market for Middle East exports, growing by more than 8%, year on year, in 2016.

Dave Witte, General Manager of IHS Chemical and Senior Vice President at IHS, says: "The region faces an opportunity to pivot to strategies that leverage their growing technological expertise, expand their global footprint and seize upon commercial advantages.

"Additionally, it enables Middle East producers to continue building on their leading position in commodity production and expand into intermediates and higher-value products.

"This is a positive transition that many maturing industries face, as technology, competition and market dynamics mandate change. We are witnessing the beginning of the 'second generation' of the Middle East chemical industry. There are challenges and opportunities facing the Middle East chemical industry that will help move the industry in a new direction."

The Middle East will produce approximately 60 million tonnes a year of chemical feedstock by 2020, with ethane comprising a little less than half as producers move away from a predominantly gas-based strategy toward a mixed feedstock strategy.

Government efforts to attract manufacturing industries to Saudi Arabia, where the non-oil economy is driving almost 75% of total growth, are driving the product mix.

This growth will inevitably spur more investments in ISO tank container depots in the region to service those containers brought to the region to support both export and import activity, together with those tank containers circulating within the Middle East and GCC countries.

At least two more tank container depots are being planned for Jubail – one is already boxed up in Europe and ready to be shipped once the site is approved.

GPCA conference review

Tank Container Magazine sees the GCC logistics infrastructure build-out continuing at a dramatic pace

The 7th GPCA Supply Chain conference was hosted by the Gulf Petrochemicals & Chemicals Association (GPCA) in Dubai from May 3-5.

The conference highlighted the dramatic growth in the capabilities of the region's petrochemical supply chain. With over 66 million tonnes a year of petrochemical exports, and 80% of all production being exported, the dependency on the region's supply chain to the major markets in Asia, Europe and East Africa grows.

1.5 million tonnes a year of liquid specialty chemicals will soon be produced by the huge $20 billion Sadara Chemical project, the Saudi Aramco/Dow Chemical joint venture. Sadara will have 26 production units, 14 of which will be produced in the region for the first time.

The conference - attended by nearly 350 delegates - highlighted the role of women in the supply chain.

Increasing the contribution of women will create an extended pool of local talent to meet the skills shortage faced in the GCC (Gulf Cooperation Council – Saudi Arabia, UAE, Qatar, Kuwait, Oman, Bahrain) supply chain. In the process, it would provide employment opportunities for local nationals, reduce the dependency on expats and help meet the local labour quotas imposed by many GCC governments. It would also pave the way for developing an outsourcing industry for certain elements of the supply chain - Saudi Aramco, for instance, is involved in an all-women call centre project employing 5,000 women.

According to a recent survey by Accenture, nearly one in two women participates in the labour force in Qatar, the UAE and Kuwait. For Saudi Arabia, the participation rate for women is one in five. In terms of wage gender equality, Qatar is surprisingly high and ranked the third best in the world; Saudi Arabia is ranked 138.

His Excellency Dr Alaa Nassif, the Chief Executive Officer of the Royal Commission at Yanbu on Saudi Arabia's Red Sea coast described how Yanbu is now the third largest refining facility in the world and a major liquid and polymer handling centre.

$1.8 billion will be invested to make Yanbu a logistics and minerals centre, featuring a 606 km^2 multi-modal logistics hub employing 18,500 people. Hoyer, TALKE and Kanoo participated in the feasibility study. 2,900 TEU a day are moved along Saudi Arabia's west coast so the hub will therefore be rail-connected in 2018.

DP World focused on dry port connectivity, driven by the lack of land available to expand sea-facing terminals. The new GCC rail network will be a critical enabler of dry ports in the region and the UAE rail network will be connected to DP World's flagship Jebel Ali port terminal.

AT Kearney noted that a critical success factor was to place the dry port near the centres of production or consumption – this would ensure the dry port's catchment area generates sufficient demand.

Abu Dhabi Terminals described their new packaging centre for Borouge in the recently-completed Khalifa Port in Abu Dhabi, and responded to a question about whether or not Khalifa Port would become a liquid petrochemical logistics hub.

Francois Lemieux, the Rail

His Excellency Rashed Saud Al Shamsi (GPCA Chairman), Dr Abdulwahab Al–Sadoun (GPCA Secretary General) and GPCA's Supply Chain Committee

Manager for Sadara, detailed the plans for the use of rail. Sadara will be the first GCC petrochemical complex to use rail as the preferred mode of transport. Construction on the giant 3 million tonnes a year Sadara project began in 2011. The first product will be produced in the second half of 2015 with full production planned for the end of 2016.

66 tank wagons and 116 double stacked container wagons will be used. However, tank containers will not be double-stacked as this would raise the centre of gravity beyond recognised safety levels.

Without a rail capability, Sadara would use 750 trucks a day; with the rail connection, the dependence on trucks is reduced by 365 trucks a day. Even with the rail connection, the average time between each truck activity is only 3.3 minutes.

Rail, of course, is not currently available so, in the interim, there will be a reliance on assets such as swap body tanks to shuttle liquids to Jubail Commercial Port. Many of these assets, of course, may become surplus to requirements once rail is available. Leasing may be one solution.

Lemieux confirmed that there will be no rail links to Sadara's customers, that rail will not be used for imports and that the rail system has not been designed to carry empty containers.

Alan Izzard, Senior Advisor to Borouge and the GPCA's SQAS Director, reviewed the Gulf Sustainability and Quality Assessment System (G-SQAS). It is the GCC's version of the European system that has successfully operated for over 15 years. The system extends the responsibility of the chemical industry's Responsible Care initiative throughout the entire value chain, including inbound and outbound goods. It is an industry EHSS&Q standard that replaces company-specifications and allows Logistics Service Providers to control their own quality 'destiny' (instead of being led by petrochemical producers).

Road transport is a natural focus for improved standards – one in seven truck accidents in Saudi Arabia results in a death and road traffic death rates are eight times higher than those in the UK.

Driver standards will also be raised – a recent survey found one in three truck drivers in Saudi Arabia is unable to read and understand Arabic, and one in three is unable to read and understand English.

Emilia Poljiakov, the Dangerous Goods Manager at TALKE, profiled the success of the ADR accreditation process in raising standards for the transport of hazardous materials in Europe.

Jose Marques, the logistics procurement manager at Sadara, considered the topic of procurement as a key lever for a sustainable supply chain. Marques is responsible for creating the logistics contracts for the start-up of the Sadara project in Jubail. These contracts include warehousing, road transportation, freight forwarding, bulk marine chartering and third party terminals and yards.

The levers include making SQAS a contractual requirement; contracting environmentally-friendlier tank container cleaning stations; aligning waste management with Responsible Care; using rail transport between Sadara and Jubail ports; having a dedicated sustainability department and deploying state-of-the-art manufacturing technology.

One cited example was Dow Chemical and BASF's proprietary hydrogen peroxide-to-propylene oxide technology. This reduces energy use by 35 per cent, reduces water usage by 70 per cent and has no by-products or residue (except water).

Industry sources say that

Mohammad Husain, GPCA Supply Chain Committee Chairman

throughout the remainder of this year, several hundred tank containers will be used to import the initial hydroxide peroxide for Sadara, ahead of completion of Saudi Hydrogen Peroxide Company's plant.

Saudi Hydrogen Peroxide Company is a Solvay/Sadara Chemical joint venture that will provide 300,000 tonnes a year of the key raw material to Sadara Chemical in Jubail II. The propylene oxide produced by Sadara will be used to manufacture polyether polyols (390,000 tonnes a year) and propylene glycol (200,000 tonnes a year). Both polyether polyols and propylene glycol are routinely moved in tank containers.

Mono propylene glycol ethyl ether and 1,2,3-trihydroxypropane are among other raw materials already being imported in tank containers for production start-up.

What is clear is that the GCC's petrochemical logistics requirements are expanding dramatically in terms of scale and complexity, with a step change in specialty liquid production about to happen with the start-up of Sadara. New assets, management skills and quality initiatives are all needed to meet the rapid production growth.

Eyeing opportunities

Tank Container Magazine assesses the quarterly *Middle East Tank Container Market Review*

In the Middle East, there are many mirages. Some are in the desert; some are in the business environment.

Within the context of the region's tank container market, the quarterly *Middle East Tank Container Market Review*, now only available by individual company subscription[1], separates the many business mirages from the genuine opportunities driving the rapid growth in tank container demand in the region.

First published in 2011, the quarterly review is produced by Leslie McCune, MD of Chemical Management Resources Ltd, an advisor to the global tank container industry.

The *Review* has reported on the rapid development of tank containers in the six member states of the Gulf Cooperation Council (Saudi Arabia, Qatar, UAE, Kuwait, Oman and Bahrain).

McCune says: "The *Review*'s fundamental remit is to expand the awareness of tank containers in the region and to provide an insightful commentary on GCC petrochemical developments, many of which spell opportunity for tank containers players that have invested the time and resource to become well-positioned in this rapid growth region."

In terms of detailed market intelligence, the region has a well-deserved reputation for being particularly impenetrable and, apart from the *Review*, there is no other published information on the state or dynamics of the tank container market.

The use of tank containers in the region has developed strongly in the past few years. McCune says: "Very simplistically, if today's crude oil production rates continue in Saudi Arabia, and there are no additions to the kingdom's current proven oil reserves[2], there will be no oil left in 63 years. That focuses the mind, not least because, today, oil revenues account for 90% of Saudi Arabia's total budgeted income[3]."

The solution is industrial diversification, which will create both new revenue streams from newly-developed industrial activities and provide much-needed employment opportunities.

Petrochemicals is seen as a strategic priority - not just for Saudi Arabia, but for most GCC countries – because the sector leverages the kingdom's hydrocarbon resources, adds value to them, is more employment–intensive than oil and gas exploration and produces the chemical and plastic products from which to build more diversified economies.

However, cost-advantaged petrochemical feedstock is no longer plentiful in the GCC. Saudi Arabia's response has been to move down the petrochemical value chain and develop specialty chemicals and polymers, many of which will be consumed in the new industries being created.

Many specialty chemicals are liquids and many are hazardous. Most specialty chemical production is exported but some lot sizes are too small for bulk chemical parcel tankers. Drums and flexitanks do not always represent a safe or economically attractive alternative - especially for hazardous products - leaving intermodal tank containers as the perfect solution.

One example of downstream specialty chemical development is Sadara, the $20 billion Dow Chemical/Saudi Aramco joint venture in Jubail, Saudi Arabia, Close to completion it is the world's largest single-phase petrochemical project, with 26 production plants. Many will produce liquid specialty chemicals, all routinely moved in tank containers.

But, much as the GCC offers new growth for tank container operators and leasing companies, there are challenges. Many of these have been alluded to in the *Middle East Tank Container Market Review*. Some relate to market entry, some to everyday market practicalities, such as working with the region's sometimes mercurial Customs and port procedures.

In terms of market entry, McCune repeats the market entry mantra: "Do your detailed market research; identify the right partner; invest in the time and resources it takes to build genuine long-term relationships with partners and customers; be patient and make sure you have the corporate 'stomach' to see you through the inevitable frustrations. Importantly, accept that it will not go according to plan – but be familiar enough with the region to know that unplanned events are as likely to be very beneficial as a problem. The rewards, when they come, will be worth it and remember that not all your competitors are willing, or able, to make the same journey".

[1] 12-month subscription (£800 for four quarterly issues); [2] BP Statistical Review of World Energy June 2014; [3] Al-Araby al-Jadeed 4 January 2015

Are you being served?

Middle East tank container customers share their thoughts on the local market

As a departure from our usual features format, *Tank Container Magazine* decided to ask the customers of the Middle East's tank container operators and leasing companies about their local tank container market.

To be as inclusive and uncomplicated as possible, we decided to ask just one simple, open and straightforward question: "As a GCC producer or logistics company, what observations do you have about the tank container market in the GCC?"

The question was only posed to Middle East chemical producers, oil companies, oil service companies, traders, freight and logistics companies, and those involved with bulk liquid storage.

To maintain the exclusive focus on tank container users, tank container operators and tank container leasing companies were specifically excluded from the survey.

All replies were treated in strictest confidence and the name of the contributor, and the contributor's company, were removed.

We accept the feedback may be unrepresentative so we have not attempted to summarise or draw conclusions from the replies.

The question: "As a GCC producer or logistics company, what observations do you have about the tank container market in the GCC?"

The replies:

"Over the past few years, all the significant deep sea tank operators have woken up to the potential of the Gulf – the big boys wanted to keep it quiet."

"Some newer guys tried to buy market share with low prices but it's ended up being a false economy for us – the customer - as the new suppliers couldn't 'pull the strings' to make things happen at ports, customs, etc. Ended up being one headache after another"

"We can afford to pay more but the ISO operators can't resist eating each other's lunch. Rates therefore stay low - good for us!"

"The top Europeans know their stuff but need good local partners to get our stuff moved"

"We work on a straightforward transactional basis but our demand is increasing, and will increase significantly, so we worry about certainty of supply of tank containers. Despite a 'no problem' attitude from operators, we've been let down more than once before by them and we were close to having to slow the plant down"

"An operator invested in the special tanks needed to move our product but we now feel captive and the rates are rising a lot."

"We often do not discharge tanks for sometimes up to 6 months but the operator expects us to pay the full demurrage."

"There's a big project coming here soon – we're worried this will limit the number of tank containers available to the rest of the market so we are thinking about leasing tanks to make sure we have some demand covered and trying to guarantee supply from preferred operators – but not easy!"

"We use old leased tanks for Saudi deliveries and storage - the product doesn't need new tanks – and we use a big tank operator for exports."

"We're thinking about leasing quite a number of ISOs - to give us a safety stock - but nobody is really

putting the whole benefit package together. Makes it more difficult to sell the idea to my management."

Tank containers are so cheap, why lease when anyone can easily buy 20 or 25 tank containers?"

"From a small base, swapbody tanks are growing quickly, especially for port shuttles and moves to other GCC countries."

"Depots are not all equal. We have rejected ISOs cleaned at one particular depot in Eastern Province."

"No periodic testing of gas tanks is possible in the Middle East. Am very interested to hear more of what these new depots in Dubai and KSA will bring."

"With a few exceptions, drivers carrying chemicals – some dangerous goods – are untrained and too often don't know what they are carrying in their ISO containers. We're a global producer with global standards and some of our outsourced transport operations in the GCC simply don't meet them. I may not be culpable but I'm responsible. Incidentally, the 'few exceptions' tend to be those who have strong European partners, some of which have brought their European kit."

"We like drivers with something approaching ADR-level training, and pay more for it, even though it is not formally required."

"Our local customers are getting bigger and moving away from drums to Iso tanks"

"Some operators are far more effective at dealing with border 'issues' than others"

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EDUCATION
INFORMATION
COMMUNICATION
REPRESENTATION
NETWORKING


MAXIMUM HANDNUT TORQUE
93.2 Nm (68.7 lbf.ft)
FORT VALE
PENDLE MANLID
500mm 6 Point
MAXIMUM HANDNUT TORQUE
68 Nm (50.63 lbf.ft)
FORT VALE
INSPECTION HATCH
300mm 4 Point