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The Port of Baltimore's busy Seagirt Marine Terminal serves as a paradigmatic example of successful engagement of the private sector in public port terminal operations.

Baltimore's terminal operator P3 serves as 'win-win-win' paradigm

By Paul Scott Abbott, AJOT

The Maryland Port Administration's public-private partnership for its burgeoning container terminal is proving to be a paradigm for port P3s, while advancement of another joint endeavor to further help the facility compete for freight heading to the Midwest has hit a snag.

"We're a firm believer in public-private partnerships," James J. White, the MPA's executive director, told *AJOT* in an Oct. 24 phone interview.

"I think it may be the best public-private partnership in the nation," White said of the $1.3 billion, 50-year agreement inked in late 2009 with Ports America Chesapeake LLC for operation of the Seagirt Marine Terminal.

"It works for all of us," White continued. "We really enjoy working together. We market together and leverage our relationships with the ship owners."

Maryland Port Administration Executive Director James J. White has ample reason to be enthusiastic about the MPA's public-private partnership with Ports America Chesapeake.

Ports America Chesapeake's general manager, Bayard Hogans, concurs, telling *AJOT*, "The partnership associated with the Seagirt P3 is a great model of how public and private sectors can work together to create a 'win-win.'

"From the public side, there was a clear need to make the Port of Baltimore competitive in a changing market and ensure the economic impact to the state would persist," Hogans said. "From the private side, there was a strong business case to be made that justified the investment, so creating this partnership, which at the time was unique, was truly beneficial for both sides.

"Like any deal," he said, "the devil is in the details, so each opportunity will have its own unique aspects that will need to be worked through, but, based on the success of the Seagirt P3, it is clear that private investment is a good option for the public sector to consider when faced with large infrastructure needs."

In fact, the Seagirt P3 might better be described as a "win-win-win," as not only do the port and Ports America benefit, but also gaining are a number of additional parties, from the container lines able to bring their big boxships far inland from Atlantic waters to the shippers moving cargo on those megavessels. Ultimate beneficiaries should include consumers as well.

Meanwhile, things aren't moving along so well for another P3 – this one looking to combine state and federal

*(**PARADIGM** – continued on page 4)*

There's a long road ahead for terminal automation

Automation of container terminals has been a work in progress for decades. Although there have been many advancements, there is still a long road ahead before terminal automation is the norm and not the exception.

By Matt Miller, AJOT

In May, the port of Qingdao unveiled its futuristic vision of the container terminal: *Day and night, unmanned quay cranes swing from ship to shore, where, guided by lasers, they load and unload containers onto and off of driverless trucks. These electric-powered, automated guided vehicles scurry back and forth between the ship and yard, where yard cranes, devoid of onsite operators, stack and sort.*

Qingdao New Qianwan Container Terminal Co. Ltd., or QQCTN, is Asia's first fully automated terminal. Shanghai is constructing an even larger fully automated terminal, which is scheduled to open in December.

The latest technology is transforming these Chinese terminals into highly productive machines. But they also stand in stark contrast to the vast majority of the world's container terminals, where technology is fighting to gain a foothold on operations and where resistance to new forms of automation can run high.

A Long Road Ahead

"We still have a very long road to go," said Yvo Saanen, founder and managing director of TBA, a Netherlands-based terminal design and simulation company. "It's not so simple to simply issue an order [that says], 'OK, we're going to roll out technology,' and have it."

Terminals offer an often-surprising patchwork of traditional and state-of-the-art, sometimes on the same piece of real estate. In various forms, automation technology is readily available. True, there are limitations. But the technology is getting better

*(**LONG** – continued on page 8)*

Qingdao New Qianwan Container Terminal is Asia's first automated terminal.

Technology looks to close gap between terminal and shipper

By Matt Miller, AJOT

Late last year, a Rotterdam-based startup called TEUbooker launched a software platform designed to tackle a gap in logistics-related technology – more efficient transport of containers between seaport and inland terminal. It's a system designed to help both carriers and shippers.

"What we are trying to do is bridge two sides of communication, from the booker to the operator into one platform," said Frans Swarttouw, TEUbooker's founder and managing director.

The terminals will benefit as well, Swarttouw believes. "Seaports will get the containers in larger volumes and not one-by-one with trucks," he said.

This kind of system, Swarttouw said, will particularly resonate with smaller shippers. It gives them a real-time network that has been beyond their means and comprehension before.

"If you look at larger shippers and forwarders, they know this game really well," he said. "If you look at all the smaller shippers and forwarders, they make irrational decisions on how to bring a container to the seaport. We connect the dots."

Transport between ocean and inland terminal is becoming increasingly more complicated as container vessels grow in size, requiring the deployment of far more intermodal carriers.

More and more terminals are focused on intermodal traffic as well, said Eva Salvesberg, the senior vice president of the logistics division for the German software company INFORM, which makes optimization software for terminals.

Salvesberg cited her own company's "Rail Scheduler" software, which is being used in the GCT Deltaport Intermodal Yard reconfiguration project in the Port of Vancouver. The software optimizes the handover of containers between yard and rail, resulting in a decreased number of re-stacking moves at the yard.

One aim of TEUbooker is to boost the use of underutilized rail and barge, thus reducing truck traffic. Another is to bring down the transport of empty containers. Better use of data, data sharing and more transparent data helps with both.

"You can build the smartest system in the world, but if you can't communicate with other parties, then you still have a problem," Swarttouw concluded.

To test the technology, the company began moving containers via underutilized barge between terminals in Rotterdam for transshipment. Early next year, it will initiate a system designed to book and track containers moving from seaports to the European hinterland and vice-versa.

That, the company hopes, can promote the use of barges, which can suffer from a perception of being too slow and unreliable, but can be, in fact, cheaper and just as dependable.

"We are using data which is already available," Swarttouw explained. "If you [as a shipper] are putting a container on the barge, will it arrive in time? We're trying to make it all visible. Demonstrate reliability. So, people can say, 'we can also choose this.'"

*(**PARADIGM** – continued from page 2)*

dollars with money from CSX Corp. – to facilitate efficient inland rail links to enhance the Port of Baltimore's competitive stance in reaching Midwest consumer markets.

The rail project deals with the more-than-100-year-old Howard Street Tunnel beneath downtown Baltimore, which must see its clearance increased to accommodate CSX trains carrying double-stacked containers.

White had said the rail project would "put us on a level playing field with New York and Virginia in going after discretionary freight to the Midwest."

However, to the shock and disappointment of Maryland officials, CSX leadership – on the eve of a federal funding submission deadline – informed the Maryland Department of Transportation that it did not plan on moving forward with the project on the tunnel, which is owned by CSX.

MDOT Secretary Pete K. Rahn, in a Nov. 1 letter to U.S. Transportation Secretary Elaine L. Chao, said MDOT would not be submitting an application for federal funding by the Nov. 2 deadline date.

In the letter, Rahn called the 11th-hour CSX decision "both surprising and incredibly troubling," adding, "It is MDOT's intent to work with CSX to explore other options to improve the flow of freight into and out of the Helen Delich Bentley Port of Baltimore."

While earlier efforts to gain federal funding for the tunnel project had not proven fruitful, Maryland officials had looked to again apply for federal dollars on Nov. 2, this time seeking $155 million to augment $145 million from the state and $145 million that CSX had said it would pony up. The total project cost dropped dramatically as engineers, continuing to work while funding was in limbo, came up with a less expensive approach.

The entire rail undertaking, including work on overpasses near Seagirt as well as the tunnel rework itself, would take about four years to complete following receipt of all funding, according to White.

In the meantime, the Port of Baltimore, offering 50-foot depths along its channel and at Seagirt berths, already is handling containers at a record pace. Building upon its high mark achieved in its fiscal year ended June 30, the Port of Baltimore saw its 20-foot-equivalent container unit count jump 10.5 percent in its first fiscal quarter, ended Sept. 30, while the port's total ship count for the quarter remained at 359, the same as for the comparable year-earlier three-month period.

The greater TEU count is due to the fact that the containerships calling Seagirt are getting bigger, and, although the largest vessel to call Seagirt to date has a 9,400-TEU capacity, White is confident of the port's ability to regularly accommodate vessels transiting the newly expanded Panama Canal with TEU capacities in the 14,000 range, with the ability to receive those with capacities of 20,000 TEUs and more potentially limited only by a 186-foot air draft.

Of course, the Seagirt facility, which dates back to 1990, wouldn't have such capability without the assertive participation of Ports America Chesapeake, which, according to White, has since 2010 invested more than $250 million in terminal equipment and infrastructure. That's money that otherwise would have had to come from the state's transportation trust fund – dollars that can now be directed toward other pursuits, from dredging to roadways.

Ports America Chesapeake's Hogans said, "The

*(**PARADIGM** – continued on page 11)*

Port projects are improving terminal productivity

By Robert L. Wallack, AJOT

Stronger global economic growth is resulting in rising cargo volumes in United States coastal ports. Port of Vancouver USA and Port Newark Container Terminal (PNCT) have multi-year expansion and infrastructure projects and Port of Hueneme is also improving infrastructure for its fresh produce from South and Central America. Del Monte Fresh Produce depends on the heavy lifting and raw muscle of their stevedoring operations to distribute temperature sensitive produce.

In 1979, Del Monte Fresh Produce led the way for other fresh fruit companies to distinguish Port of Hueneme as one of California's busiest seaports which now handles over $9 billion in all kinds of cargo annually from bananas to automobiles, mainly. To cope with the growing volumes of cargo, the Army Corps of Engineers will dredge the Port depth to 40 feet from 35 feet and the Port is implementing shore side power for vessels to save fuel and reduce emissions. Del Monte Fresh Produce Ocean Cargo Services operates as Network Shipping Ltd with land trucking, ocean shipping vessels and operations.

Ports America, the largest terminal operator and stevedoring in the United States, does all of Del Monte's cargo movements and monitoring. Ports America is the terminal operator in Port of Hueneme and Del Monte hires them to "take care of everything," said Chuck Caulkins, port manager, Del Monte Fresh Produce in a recent talk with the *AJOT*. Caulkins began as operations manager 21 years ago and promoted to port manager 12-13 years ago. He was a naval officer prior to his career in Del Monte Fresh Produce.

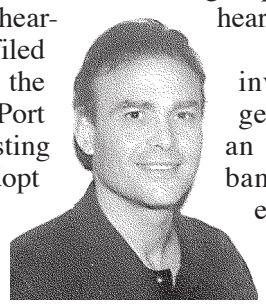
The Port owns both facilities used by Del Monte with a long-term lease. The fresh produce importer con-

*(**PROJECTS** – continued on page 7)*

What constitutes unreasonable terminal charges?

Federal Maritime Commission takes up issue

By Peter Buxbaum, AJOT



On September 20, the Federal Maritime Commission voted to hold hearings on a petition filed last December by the Coalition for Fair Port Practices, requesting that the FMC adopt a policy on what constitutes unjust and unreasonable demurrage, detention, and per diem charges under existing rules.

It's been a controversy that has pitted shippers and truckers against ports, terminals, and ocean carriers for some time. Cargo owners and trucking companies are normally given a certain number of free days to pick up containers from ports, after which they can be charged demurrage. Detention and per diem fees can also be charged if containers and chassis are not returned within a specified time.

That issue came to a head last fall when the bankruptcy of South Korea's Hanjin Shipping left cargo owners unable to pick up containers on time and later prevented them from returning containers and chassis. Two members of the National Customs Brokers & Forwarders Association of America (NCBFAA) filed complaints with the Federal Maritime Commission (FMC) alleging they were illegally charged thousands of dollars by Maher Terminals, in the Port of New York and New Jersey, for containers stuck in the port. Delays have also occurred during the 2014-2015 labor slowdown at West Coast ports and Hurricane Sandy on the East Coast in 2012.

Port Congestion

One of the big points of contention between the stakeholders involves the persistent problem of port congestion. Shippers complain that congestion prevents them from picking up containers on a timely basis while terminal operators counter that shippers' punctuality failures exacerbates congestion. Carriers and terminal operators also contend that charges are routinely negotiated down based on circumstances. The petition asks the FMC to adopt a policy that would require free days to be extended when delays are caused by circumstances beyond the control of the parties.

The controversy is already being played out before the FMC, as shippers, intermediaries, terminal operators, and ports have filed comments with respect to the pending petition. The FMC is currently working to put the matter on its hearing calendar.

"Recent events involving port congestion, labor strife, an ocean carrier bankruptcy, inclement weather, and other disruption events have had crippling effects on U.S. ports and the stakeholders who rely on the efficient movement of goods," the 25-member Coalition for Fair Port Practices said in the petition. During the incidents, storage and use charges have continued "even though shippers, consignees, and drayage providers had no control over the events that caused the ports to be inaccessible and prevented them from retrieving their cargo or returning equipment."

A typical comment in support of the petition came from Matthew Brauner, president of Brauner International, Corp., an ocean transportation intermediary. "Recurring port congestion resulting from significant weather events, port labor issues or inadequate port

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William Bourbon ..... Publisher

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phone: 954-328-9335 ..... email: dcantwell@ajot.com

Brendan Dugan ..... East Coast & West Coast Sales Rep
phone: (908)499-8737 ..... email: bdugan@ajot.com

Ed Andrews ..... Europe Sales Rep
phone: +44 7880 702227 ..... email: ed@duvelmedia.com

And now for something completely different…

Wilmington, DE looks to a new direction.

By Peter Buxbaum, AJOT

The Port of Wilmington, Delaware is trying to pull off something unusual: the outsourcing of the entirety of port operations to a contractor under a long-term lease. Under the scheme, the contractor would be obligated to invest in port improvements and expansions.

The Port Authority commissioned a strategic master plan last year, and the outcome of that process suggested that a public-private partnership would be the best way for a small state like Delaware to fund port improvements. Delaware's population is less than one-million.

"Out of the master plan process," said John Haroldson, a port spokesperson, "came the direction to pursue a public-private partnership." The Port Authority is a state-owned entity that currently depends on the state for funding.

The improvements and expansions to be undertaken by the contractor are focused on the potential for a new container terminal on land - the site of a former chemicals factory - the Port Authority acquired earlier this year.

Bids from potential port operators were submitted in August and are currently being reviewed. The port did not outline a detailed plan for how the public-private partnership would work but is relying on the bidders to come up with ideas. The process is supposed to be finished by the end of this year. The names of the bidders have not been made public.

A scheme to privatize container operations at the Port of Dar es Salaam, Tanzania, in the 1990s met with success, according to a 2013 report out of Mzumbe University. That study showed that congestion at the port has been eased, average ship dwell times have been shortened, and the number of ship calls and freight volumes handled at the harbor have increased. The move also spurred the growth of inland container deports. In a somewhat different situation, the Virginia Port Authority (VPA) put the kibosh on a privatization scheme in 2013. In that case, the Netherlands-based APM Terminals made an unsolicited bid to take over management of Norfolk International Terminals from the port's operating arm Virginia International Terminals (VIT), a state-owned instrumentality. A politically appointed board considered the offer for several months before asking for others.

JP Morgan Chase, the private equity organization Carlyle Group and the real-estate investment arm of Deutsche Bank all responded and VIT offered its own bid. The board eventually voted unanimously to reject all of the privatization offers. Despite being Republican-led, the board was reportedly concerned about the loss of jobs under privatization, even though it also promised the infusion of private capital to improve terminal infrastructure.

At the Port of Wilmington, Delaware, they are hoping for the best.

*(**CONSTITUTES** – continued from page 5)*

infrastructure have caused lengthy delays in moving the cargo and empty containers," Brauner wrote. "Yet, ports and carriers have routinely assessed demurrage and/or detention charges to us and/or our customers even though the delays in moving the containers are normally beyond our control." Arguing with carriers or ports, or challenging the bills before the FMC "is time consuming and unwieldy," Brauner added.

Other shippers and forwarders recounted nightmare scenarios of being charged ungodly penalties for situations beyond their control. Marina Radcliffe, regional trade compliance manager at APL Logistics, wrote that one of her customers incurred penalties of over $375,000, and that APL was hit with $57,000 in demurrage as a result of the Hanjin bankruptcy.

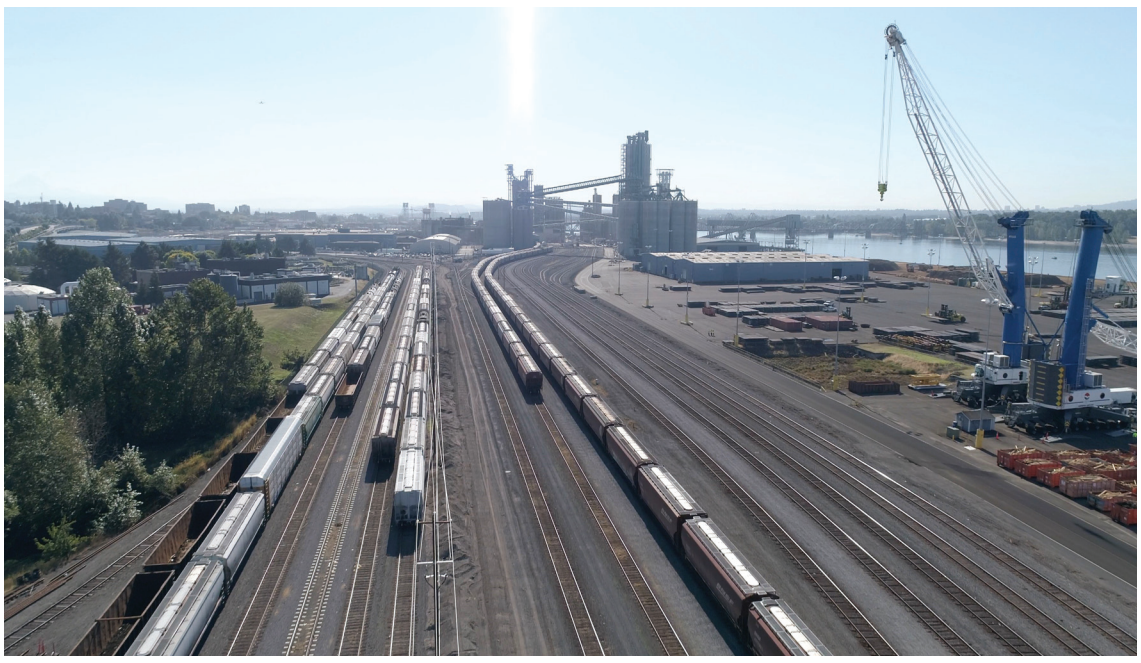
Johnsonville Sausage of Sheboygen Falls, Wisconsin, incurred $219,292 in additional cost in 2014 and 2015, including detention, storage, airfreight, demurrage, and per diem cost due to the West Coast shutdown, according to Curt Reynolds, the company's director of logistics. "Our company has experienced repeated incidents of severe congestion at container terminals in U.S. ports at Oakland, Tacoma, Los Angeles, and Long Beach which have prevented us from delivering our cargo," he wrote the commission.

MacMillan-Piper, which is an operator of four warehouses in the Seattle/Tacoma area, was billed $1.25 million in detention charges by 17 steamship lines from May 2014 through August 2015, for 953 containers, according to Suzanne Tilley, the company's compliance and assets manager. "To support our normal volume of business, trucks leased to us need to each move an average of eight containers a day through the ports," she wrote. "This was not possible during much of 2014 and 2015, during which time trucks often had no more than two moves per day." The $1.25 million was eventually reduced to $250,000 after a year of disputes.

Issue of Risk Transfer

Opponents of the petition included Crowley Maritime Corporation, which submitted a document authored by Alan R. Twaits, its vice president and chief counsel. "The shipper petition would transfer risk for detention and demurrage situations to liner operators (and marine terminal operators)," he wrote. The

*(**CONSTITUTES** – continued on page 7)*



The nearly completed West Vancouver Freight Access (WVFA) is a $250 million rail expansion project to increase the Port's capacity from 55,000 to 400,000 rail cars per year.

*(**PROJECTS** – continued from page 4)*

tracts with Ports America for stevedoring. One ship arrives each week from either Ecuador, Costa Rica or Guatemala and Ports America hires the labor to discharge the bananas, fresh pineapples, melons cantaloupes, honey dews and watermelons. These shipments move to the warehouse or by container to rest in the yard where longshorepersons plug in the refrigerated containers to monitor temperatures.

The International Longshore and Warehouse Union (ILWU) is essential to Del Monte and Ports America and represent approximately 20,000 longshore workers on the West Coast of the United States. The Port, the terminal operator and Del Monte can be assured fresh produce will arrive to customers in the western one-third of the United States because of the recent contract extension with Pacific Maritime Association (PMA). The contract extension will raise wages, maintain health benefits and increase pensions from 2019-2022.

The fresh produce cargo is handled by an ILWU clerk and teamster forklift operator from San Pedro Forklift, Inc. from the "point of rest" in the Port to truck loading. Most Port of Hueneme customers pick up their own cargo at the Port, explained Caulkins. He added, "Ports America has interesting operations with the Port of Hueneme by many cargo types of breakbulk produce, containerized produce, autos and military shipments." Del Monte Fresh Produce also does business in Galveston, Texas; Port Manatee, Florida and Holt Terminal in Philadelphia.

Rail Access

Port of Vancouver USA is anticipating more container volumes from the improving global economy and from the sailing of more megaships carrying 20,000 containers. There are a few projects underway such as the nearly completed West Vancouver Freight Access (WVFA). This is a $250 million rail expansion project to increase the Port's capacity from 55,000 to 400,000 rail cars per year. This will reduce regional rail congestion by as much as 40 percent on the BNSF Railway and Union Pacific Railroad main lines, according to Katie Odem, spokeswoman

*(**PROJECTS** – continued on page 11)*

*(**CONSTITUTES** – continued from page 6)*

petition's "proposal would practically eliminate the ability to charge detention and demurrage. Shippers could claim any delay is out of their control and carriers and terminal operators would be forced to prove otherwise."

Carriers like Crowley routinely negotiate with shippers to mitigate extra charges "where it is equitable to do so," Twaits added.

The Port of NY/NJ Sustainable Services Agreement, a conference comprising marine terminal operators doing business in the Port of New York and New Jersey, argued that "the present regulatory framework provides adequate remedies." The organization opposes the petition, also, because the FMC lacks the legal authority to grant what the petitioners seek and because "the proposed rule...will create confusion, undue agency action, and exacerbate congestion."

At least one shipper is anxious that congestion at U.S. ports will be getting worse, a situation which would only complicate the issue of demurrage and other penalties. Sharon Schneider, director of operations and logistics at Marc Fisher Footwear in Greenwich, Connecticut, reported that the company could pull a container from the Los Angeles pier in two to three business days six years ago and that it now takes an average of six days.

"We can still enjoy the two to three days in Port Newark," she added, "but once the Bayonne Bridge is fully functioning, it is a matter of time before we relive the LA congestion nightmare in New Jersey and I fear that six-day discharges and excess terminal handling may be our future and the new normal for NY and NJ."

According to some estimates, fully-automated quay cranes in terminals like Rotterdam have cycle times that are 20% to 30% longer than those that are semi-automated.

(**LONG** – *continued from page 2*)

and better. And, by and large, it works.

However, it's by no means a given. Terminal operations and its various components represent an industry that can be surprisingly old-fashioned and tradition bound.

"People just don't understand the difficulties of moving toward automation and, at the same time, don't appreciate the benefits," said Joseph Discenza, president and CEO of SmartCrane LLC, a Virginia-based company that supplies anti-sway software to quay cranes. "It's hard for people to get their minds around the idea of doing lots and lots of automation. They're going one drip at a time."

This isn't just a matter of having the latest and snazziest technology for bragging purposes. The consultancy McKinsey & Co. has estimated that port and carrier inefficiencies cost the industry $17 billion a year.

"Ports and terminals are always looking for innovative ways to solve operational problems," emailed Eva Salvesberg, the senior vice president of the logistics division for the German software company INFORM, which makes optimization software for terminals.

There are anywhere from 1,000 to 1,200 container terminals worldwide. The degree of automation varies widely. According to one estimate quoted by Salvesberg, "Only 3% of maritime terminals are fully automated, with a further 7% to 13% partially automated. So, at best, 16% of terminals have made real investments in automation technologies," she wrote.

Saanen offers an even more sober view: Less than 5% of the world's container terminals have a degree of robotics, he believes. There's a higher use of so-called process automation, which monitors systems, Saanen said, but it's still far behind the degree of similar technology used in factories and warehouses.

"The expectation is that most automation will be conversions," he said, "step-by-step," adding, "Harsh outdoor conditions, poor information availability and accuracy, a high degree of dynamics (e.g. vessel arrival times), [all] make automation more difficult than in factory or warehouse environment."

The Challenge of Terminal Automation

There's nothing standard about a terminal. Each one is different, with many moving parts and a unique geography. Multiple operations occur simultaneously amidst exacting and exceptional working conditions.

"It's a very complex environment," said Raj Gupta, the chief technology officer and senior vice president of engineering at Navis, which designs terminal operating systems. He quipped: "If you've seen one terminal, you've seen one terminal."

Take quay cranes. In most semi-automated terminals, computers get the boxes into position and operators take over. The difficulty, Discenza explained, is that vessels move constantly, even when tied up, a victim of tides and shifting weight as three or four cranes are loading or unloading boxes. According to some estimates, fully-automated quay cranes in terminals like Rotterdam, with operators who sit in offices offsite, have cycle times that are 20% to 30% longer than those that are semi-automated. (This doesn't take into account the ability of a fully-automated crane to operate in darkness, a distinct advantage.)

Operators provide flexibility to loading and unloading.

In many ways, terminal automation can be a tale of two worlds. Planned from scratch, some new terminals make ample use of highly automated equipment and systems. These fully automated terminals include operations in Rotterdam, Melbourne and Hamburg.

They are incredibly advanced facilities, and carry with them huge price tags. Shanghai's new Phase 4 Terminal, for example, is expected to cost some $2 billion and boost the number of automated guided vehicles at the Yangshan complex to 130, the most in the world today, and three times the number now running at Qingdao.

The number of container terminals now in operation dwarfs that kind of project, however. "At the moment, there may be out there worldwide 25 new projects, each of them taking three to five years" to construct, explained Saanen. "Out of a total of 1,200 container terminals, that's nothing."

He added that over the past five years, "more capacity has been added conventionally than has been added in automated fashion."

Planners cite varied rationale for full automation, and it's not necessarily increased productivity. Automated operations provide one way to counter the high price of labor in the US, Europe and Australia, although unions can hold sway on how many jobs can be eliminated.

In many developing countries,

(**LONG** – *continued on page 11*)

Navis supplies both the haves and have nots with terminal operating systems

By Matt Miller, AJOT

Navis LLC has been providing terminals with operating systems for almost three decades. But the Oakland, California-based company faces a brave new world these days, with new, fully automated terminals standing sometimes side-by-side with those that remain manually driven.

"It's challenging. It's complex," said Raj Gupta, the company's chief technology officer and senior vice president of engineering, in an interview.

Navis supplies hundreds of non-automated terminals with their operating systems, attempting to insure various processes move as smoothly as possible.

Gupta cited a recent survey Navis conducted with its customers. About 60% said that Navis's latest terminal operating system, N4, reduced costs in yard planning, yard operations and vessels operations. Almost three-fourths of respondents said the system had improved gate productivity by 10-24%.

With fully automated terminals, the company's task is more complicated.

Take its role in the recently inaugurated Qingdao New Qianwan Container Terminal Co. Ltd., or QQCTN *(see Matt Miller story on page 2)*. Navis provided Asia's fully automated terminal with a terminal operating system, or TOS. In addition to each automated function – the quay cranes, the stacking cranes, and the driverless vehicles that shuttle containers back and forth – there's the need to coordinate all into one massive, efficient organism.

"We essentially are insuring that the container is able to go from the vessel to the automated guided vehicle to the yard and then from the yard to the automated guided vehicle back to the vessel," Gupta explained.

While Navis tweaks and fine-tunes its TOS, the company is embarking on a longer-term project to bring terminal constituents even closer to together.

"For the last couple of years, we have transformed [ourselves] significantly to look at the shipping supply chain much more holistically," said Gupta.

Navis's parent company, the Helsinki-based Cargotec Corp., aided this effort through the 2016 acquisition of INTERSCHALT maritime systems AG for an undisclosed amount. INTERSCHALT is a specialist maritime software developer that provides software solutions for cargo and fleet management. It is now part of Navis.

(**SUPPLIES** – *continued on page 10*)

San Pedro Ports approve Clean Air Plan

The Ports of Los Angeles and Long Beach approve landmark "clean air plan". Is this a blueprint for future port plans?

By Stas Margaronis, AJOT

The governing boards of the Ports of Los Angeles and Long Beach unanimously approved the 2017 Clean Air Action Plan (CAAP), on November 2nd. The plan contains ambitious goals for lowering truck and cargo-handling equipment to near zero and ultimately zero emissions.

In a background paper, the two ports state: "the 2017 CAAP (Clean Air Action Plan) Update includes goals for 100% zero-emissions for trucks by 2035 and cargo-handling equipment by 2030 …The CAAP does not mandate or assume the use of one particular technology or fuel. Operators have choices about the use of the clean technology that meets their operational needs, while also meeting the ports goals for lower emissions. In addition, the CAAP introduces interim milestones for near-zero emissions trucks and equipment, but continues to support the ultimate goal of zero emissions.

The Ports seek emission reductions that will:

- Reduce cancer risk from port-related diesel particulate matter by 85% by 2020.
- By 2023 reduce port related NOx (nitrogen oxide) emissions by 59%; SOx (sulphur oxides) emissions by 93% and diesel particulate matter by 77%
- By 2030 reduce Greenhouse Gas Emissions from port-related sources by 40% below 1990 levels and by 2050 reduce those emissions by 80% below 1990 levels.

During the November 2nd meeting, the CAAP was hailed by Los Angeles Mayor Eric Garcetti and Long Beach Mayor Robert Garcia as a continuation of the leadership the two ports have played in lowering port-related emissions.

Gene Seroka, executive director of the Port of Los Angeles said "Today is a day to celebrate" a new level of low emission port operations.

Mario Cordero – executive director, Port of Long Beach

Mario Cordero, executive director of the Port of Long Beach said "We will facilitate the technologies and the funding to make this plan succeed."

Chris Cannon, director of environmental management at the Port of Los Angeles laid out an overview of the implementation steps while his counterpart Heather Tomley, director of environmental planning at the Port of Long Beach provided details on implementing the CAAP. These included steps to impose near zero and zero emissions on cargo-handling equipment and trucks.

Mayors Garcetti and Garcia as well as executive directors Cordero and Seroka expressed the close cooperation that characterized the CAAP development by the two ports.

However, some groups urged a more cautious approach to the CAAP including the Pacific Merchants Shipping Association (PMSA) which represents terminals and shipowners. *(See Long Beach Container Terminal article on page 10)*

***(APPROVE** – continued on page 10)*

Liebherr electric powered crane debuts at Port of Los Angeles

By Stas Margaronis, AJOT

The mobile harbor crane builder Liebherr has finalized the electrification of a previously supplied crane to the Port of Los Angeles. Liebherr worked with SA Recycling at the Port of Los Angeles to upgrade the crane to a fully electric mobile harbor crane.

Rory McBride, sales manager maritime equipment for Liebherr U.S.A., told *AJOT* that the Liebherr LHM 550 is a 144-ton machine with a 54-meter boom utilizing a innovative skid pan configuration. This allows the crane to be very efficient in handling scrap metal. The LHM 550 is very energy and cost efficient relative to traditional scrap handling cranes operating in the United States. For example, the LHM 550 can lift upwards of 62 tons in one move. The crane is also one of the greenest cranes because it is electric powered.

The SA Recycling facility at the Port of Los Angeles has benefitted from eliminating diesel emissions and noise as well as sporting a brand new, state-of-the art mobile harbor crane at the Port of Los Angeles, McBride said.

In a release the Port of Los Angeles said: "The new crane will be used to load processed metals onto vessels to be shipped overseas. Replacing a 950-horsepower diesel-powered "Tier 2" crane, the newly installed "Tier 4" engine will eliminate 74 tons of oxides of nitrogen (NOx), three tons of particulate matter (PM), three tons

***(DEBUTS** – continued on page 15)*

Long Beach Container Terminal offers competitive blueprint for automated, zero emission port operations

By Stas Margaronis, AJOT

The Ports of Los Angeles and Long Beach are facing criticism from terminal and vessel operators that their new Clean Air Action Plan (CAAP) of 2017, designed to gradually reduce the use of high emission cargo-handling equipment, is costly and will send more business to other ports.

The Pacific Merchant Shipping Association (PMSA) criticizes the CAAP because it proposes costly initiatives that will further erode the competitiveness of the two ports. The CAAP calls for the elimination of diesel powered trucks and cargo-handling equipment and replacement with low emission equipment. In a September 18th letter, PMSA argued that the two ports emission reduction proposals in the CAAP Update will cost "$14 billion; a cost that undoubtedly understates the true costs of the CAAP and a cost that puts at risk the 1 in 9 jobs in the region that have made the San Pedro Bay ports the economic engine of Southern California."

Long Beach Container Terminal

A Dutch container terminal designer, who has visited the Port of Long Beach, told *AJOT* that electric-powered container terminals generating near zero emissions already exist at the new automated Long Beach Container Terminal (LBCT), and could be the model for expanding the use automated terminal operations with electric-powered systems that generate zero emissions.

LBCT utilizes electric-powered cranes and cargo-handling equipment, and has the capacity to handle 18,000 to 20,000 TEU container ships.

LBCT will have the capacity of handling 3.1 million TEUs at an estimated cost of $2 billion when complete. This capability compares to 2016, when the Port of Long Beach handled a total of 6,775,171 million TEUs and the Port of Los Angeles handled 8,856,782 million TEUs.

LBCT will bring the biggest container ships to Southern California and help restore the competitiveness of the Port of Long Beach. The Port of Los Angeles would similarly benefit with an LBCT-type investment in electrically powered automated container handling, the designer noted.

The challenge would be to find the space at the two ports to build out new terminals and phase out the old ones. There would be considerable disruption and many engineering challenges.

At LBCT, the designer notes, the use of automated guided vehicles (AGVs), powered by batteries, creates a more efficient way of picking up and delivering containers to and from the Ship to Shore cranes that unload and load container ships. It is also cheaper and generates zero emissions.

"When these AGVs start to get low on

*(**BLUEPRINT** – continued on page 15)*

*(**SUPPLIES** – continued from page 8)*

In addition, Navis has produced its own collaboration software for terminals and carriers it calls XVELA. The company hopes to expand this to include other parties, including port authorities, shippers and intermodal companies.

The idea, Gupta explained, is to integrate a terminal operating system with carrier solutions and online collaboration. This would give various parties in this maritime supply chain better, more accurate and more up-to-date information. Having access to real time information about the state of the terminal, for example, allows a shipping line to know what the best time to land would be, what quay cranes are available, if the terminal is backed up. The terminal would conversely have a much better idea of when a vessel is coming, and have a more accurate assessment of what containers are stored where on a vessel than with a static manifest.

This effort attempts to counter both a tendency within the industry to segment software systems in silos and a reluctance among various players within the supply chain to share information. Traditionally, shipping lines and terminals have treated data like closely held cards in a game of poker.

Like others in the industry, Gupta believes these barriers are breaking down as the shipping industry consolidates and major lines work much closer with allied terminals to iron out scheduling and manifest issues. These are sometimes owned by the same holding company, for example, Maersk and APM. Or, they're in alliances, such as DP World and the global shipping consortium, THE Alliance, which includes Hapag-Lloyd, K-Line, MOL, NYK Line and Yang Ming.

"We are hoping that we can take that one step further by providing a platform that is agnostic from any one terminal or carrier and allow the parties to share information to the extent that they want to," Gupta said. "We store a lot of information about a terminal, but we don't have to expose that to a carrier, only to the extent a terminal feels comfortable with."

*(**APPROVE** – continued from page 9)*

John McLaurin, PMSA president warned that the two ports need to "address the feasibility of zero-emission cargo-handling equipment and to examine the ports ability to compete with other North American trade gateways."

*(**PARADIGM** – continued from page 4)*
significant growth of container volumes in the Port of Baltimore can be directly attributed to the investments made by Ports America Chesapeake and the expansion of Seagirt Marine Terminal.

"Without the private-sector engagement, this impressive level of growth would not have been able to be achieved," Hogans continued. "Based on the competitive business environment of container shipping, it can be strongly argued that volume and business impact could have been lost without the engagement."

Hogans said his company now looks forward to working with the Port of Baltimore on an expansion strategy that includes a 70-acre tract, contiguous to the 284-acre Seagirt terminal, that the MPA acquired in May for $55 million. That acquisition, the first of its kind for the MPA in three decades, should keep the Port of Baltimore from being land-challenged until at least 2030, according to White.

A busy Seagirt Marine Terminal is vital not only to serving markets farther inland but also in efficiently, cost-effectively getting cargo throughout the nation's fourth-largest consumer market, as Baltimore-Washington trails only the New York, Los Angeles and Chicago areas among U.S. population centers. Two-thirds of the nation's people can be served within an overnight drive of the Port of Baltimore.

The area around the Port of Baltimore has become a hotbed for distribution center development, with Amazon already operating two warehouses each covering 1 million square feet and a third similar facility planned for the Tradepoint Atlantic campus at Sparrows Point that in 2018 is to see opening of facilities including a 1.3 million-square-foot Under Armour distribution hub.

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*(**PROJECTS** – continued from page 7)*
for Port of Vancouver USA.

At the terminal operator and stevedoring level, "this project will increase unit train capacity since trains can now be discharged without removing the engine (power) making the operation cost-efficient. Adding train capacity will enable terminal operators to handle multiple commodities at one time, helping the Port of Vancouver USA to attract high-volume bulk projects," she added. The WVFA project is to be completed by 2018.

In addition, Project 7 will enlarge Kinder Morgan's dry (copper, bentonite clay, and other minerals) facility with more tracks in connection with WVFA and reduce dust from unloading by a covered, enclosed area to be completed this year. Project 11B is to improve grain track unit trains by 2018 and the Continental Industrial Building in lot 1 of 7 is a 125,000 square-foot (32-foot clear height) light-industrial warehouse in a 67 acres Park for tenants in advanced manufacturing, warehousing and distribution. This building will have several features for environmental sustainability to be completed in 2017.

On the East Coast, Port Newark Container Terminal embarked on a $500 million expansion and infrastructure upgrade to facilitate the growing vessel volumes in part from the new Panama Canal. PNCT has a long term phased program to 2030 that will double capacity by 2019 from 1.3 million TEU to 2.3 million TEU per year. Chris Garbarino, PNCT Vice President Operations explained to the *American Journal of Transportation* that "to date, our straddle carrier fleet has grown by more than 20 percent and our yard capacity in excess of 33% with additional expansion activity in progress. PNCT added three super-post Panamax (SPPX) cranes (in operation) with two additional cranes in service by the end of the first half of 2018 and two more cranes in the design and planning process for a total crane fleet of 14." Finally, productivity will improve at the terminal by a new and expanded truck gate complex to speed trucks through the facility for reduced truck turn time to be completed in the first quarter of 2018.

A reliable terminal operating system (TOS) is important to knit together all the moving equipment, rolling stock, operations and administration events. PNCT worked with Navis to successfully upgrade to the N4 platform in the first quarter of 2017. Navis is part of Cargotec Corporation *(see Matt Miller article on page 8)* a provider of operational technologies and services for terminal operators and ocean carriers with their combined goal of becoming the leader in intelligent cargo handling.

The N4 implementation was timely since cargo volumes are increasing in PNCT and the testing and live data flowing of N4 improved productivity, especially in rail activities. "Post N4 implementation, crane productivity climbed 20% and N4's rail planning and execution functionality has aided in promoting and attracting additional rail business to PNCT," said Garbarino. PNCT selected N4 also because of its data, billing and reporting capabilities and for its optimization modules as well as for configuration and data analytics capabilities and its integration with other advanced terminal technologies, such as, optical character recognition (OCR) which are important in gate management systems.

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*(**LONG** – continued from page 8)*
where most of the new terminals are being constructed, it's still much cheaper to hire laborers than to automate. But in China, the issue is worker turnover, which is very high in the industry. Terminal operators train up operators and other highly technical jobs, only to lose their employees after.

According to reports, QQCTN has reduced the number of workers necessary to unload a shipment from 60 to nine.

Expensive equipment is only one part of the equation. Software is now available that helps speed up and optimize performance in a variety of terminal tasks, from gate automation to being able to pinpoint container location faster and more accurately, from intelligent stacking to yard management.

On the other hand, inadequate software drags down equipment performance, no matter how sophisticated that equipment is.

"For automation to advance, it will take a combination of continual process refinement and optimized execution. Technology is only as strong as its weakest link," said Salvesberg, "Equipment capable of handling 30 moves per hour paired with a decision-making process that can only achieve 20 will never live up to the hype."

According to Salvesberg, adding optimization software to a five-high rail-mounted gantry yard can result in up to a 51% decrease in re-handles. "The flow-on effect is that less space is needed to handle the same volume of containers, thereby resulting in an increase in the total volume the same physical yard can manage," she said.

As older terminals upgrade, there's a tendency to add costly, new equipment rather than optimize operations through software. Salvesberg, for one, sees this as a sometimes-unnecessary expense. She provides this example:

A terminal has 60 straddle carriers, 30 of which are old and need to be replaced. Adding INFORM optimization software could reduce the number of straddle carriers necessary from 60 to 40, meaning only ten new carriers are necessary.

The IT Conundrum

Part of the resistance to information software, or IT, comes from terminal operating executives and managers themselves. "Traditionally, it's a manual world. A lot of senior staff comes from operations. They prefer more equipment over intelligent IT," Saanen said. Not only does this hinder operations, it reduces the potential for collecting information on what is being shipped and stored, what containers are likely to sit around the yard for weeks and which ones are likely to be picked up the following day.

This is intelligence that could better model the supply chain. "Standardized data is crucial to the future of our industry," said Salvesberg.

However, an inability to incorporate adequate IT goes beyond the terminal operators. A container terminal is dependent on many different parties – shippers, vessels, trucks, railroads. They must work in concert. Instead, there's distrust and the hoarding of vital information.

Not sharing information stands as one of the biggest impediments to the use of technology. Yet, bad information is one of the worst offenders in driving up costs at a terminal. Saanen, for one, estimates that eliminating imperfect information could reduce re-handling in the yard by 25% to 50%.

"The technology that is out there should facilitate seamless connection between shippers, terminals, shipping lines," he said, adding that some parties make money over an ability to sit on information. "There's still a lot of paper around, a lot of faxes. It's unbelievable."

Others agree that withholding information is a huge issue at terminals, one that terminal operators are often powerless to alleviate.

"The primary goal is to make port processes as smooth and as painless as possible for all parties. This is all about sharing information and data so we can all make smarter choices," said Frans Swarttouw, managing director of TEUbooker, an online container-transport booking portal. But, he added, "There is a lot of mistrust among stakeholders."

To break through these barriers, it's sometimes necessary to call in honest brokers. Port authorities are assuming that role in a number of ports, including Rotterdam.

"They take the roll of connector of all the parties within the port," said Saanen. "Because they are neutral, that makes it easier for other parties to share information."

"All parties in the port industry need to realize that we operate in the same industry," Salvesberg concluded. "Working together, sharing resources like data and lessons learned are crucial steps in improving as a whole. The more siloed we are, the weaker we are as an industry."

Using data analytics to make better deliveries

DHL Express is revamping, costing engine to catch up with e-commerce

By Peter Buxbaum, AJOT

E-commerce has changed operational, cost, and profit equations for air carriers in recent years. Consider a few ways delivering air freight has changed as a result of the explosion in online purchasing.

Many e-commerce purchases are directed to residences and the typical delivery involves just one shipment. Traditional business-to-business deliveries made by DHL Express typically involve anywhere from six to 50 shipments, which provides cost advantages to the carrier thanks to economies of scale.

The rate of failed deliveries to residential addresses is high and that costs carriers' lots of time and money. People are typically not home during the day while businesses are usually open all day.

Insight on Insight

The proliferation of data and the capabilities developed to process that data and gain business intelligence from them is one reason DHL Express embarked on developing a global costing engine called *Insight*—built on the Teradata analytics platform—back in 2009. In an effort to improve the system and to account for the realities of e-commerce, DHL Express is currently updating Insight, a process which will culminate in early 2019.

Insight gathers cost and revenue information about every shipment DHL Express delivers, allowing profitability to be calculated. The system consolidates this data in one place—which is important for deriving actionable information from big data sets—and provides a single version of the truth to everyone in the company that makes use of this type of data.

"Business-to-consumer deliveries involves a different cost algorithm as compared to B2B deliveries," Graeme Aitken, vice president for business controlling at DHL Express, told an audience at a Teradata conference in Anaheim, California, in October. "B2C involves higher costs and lower revenues yet customers expect fast and free delivery."

DHL Express has implemented a number of new practices in an effort to better serve e-commerce customers. As a first step, it engineered a data project last year to make sure that it knew if the delivery address was residential or business. (See sidebar.)

Another project the company initiated is called in-demand delivery. "In the case of home deliveries," Aitken explained, "we send a text or an email and give the customer options." The first, of course, is to deliver to the residence if the customer is there. The consignee can also sign for the delivery online and have the package left, ask it to be held, or direct it to a neighbor's house.

DHL Express has made a significant investment in lock boxes that may

*(**DATA** – continued on page 14)*

In Germany, DHL Express is pioneering consumer deliveries to automobiles. The company ascertains the location of the vehicle and the DHL driver receives a one-time code that allows him to pop the trunk and place the delivery inside.

Ireland provides proving ground for DHL data project

By Peter Buxbaum, AJOT

DHL is striving to make its parcel delivery business as efficient and as effective as possible. (See main story.) One thing they're working on is to differentiate between deliveries to business, as opposed to residence, addresses.

Deliveries to businesses, obviously, are best made during normal business hours. The opposite is true of residential deliveries. The quest is to sort the parcels that fall into these two categories at the beginning of the process and assign them to separate routing systems, something it has not done before. In both cases, the company is striving to deliver the parcels at times that are best for each consignee.

A growing number of parcels carried by DHL involve crossborder movements, a fact which complicates matters on several levels.

"We operate in 220 countries," noted Andre Wittfoth, a development manager at DHL. "This involves different language sets and different ways of denoting addresses."

As is the trend throughout the logistics and supply chain industries, DHL is interested in applying the highest degree of automation to this process. This involves the application big data technologies, including cross-referencing the names and addresses provided by shippers to databases of postal codes, personal names, and business names and locations.

"We wanted to find a method to automatically calculate residential versus business addresses," said Wittfoth.

The company, in collaboration with technology provider Teradata, decided to pilot this effort with a baptism by fire in Ireland. Why Ireland? Because that country doesn't have a zip code system, so the effort would be solely dependent on the analysis of data found in the natural language information supplied by shippers.

DHL had five years of data on about 900,000 deliveries made in Ireland. This included information about when an individual was not home or a business was closed when a delivery was attempted. The data also included 400,000 personal and family names, access to a Google database of business addresses, and 500,000 customer tokens—textual information that supply clues about the nature of the consignee.

"The main success criteria was to generate a minimum of false positives," said Jonas Svaton, a data scientist at Teradata, who worked on the project.

The strategy was to develop a model to use the data to make the residence-business distinction and then assemble a data set with known

*(**PROJECT** – continued on page 14)*

Qatar Air eyes new 747 deal as embargo spurs cargo demand

Qatar Airways Ltd. is considering whether to order more Boeing Co. 747 jumbo freighters as global air cargo rebounds and the Persian Gulf carrier responds to a blockade of its home country.

The jets, featuring a hinged nose that flips open to load oversize equipment, would help the Doha-based carrier make good on its ambition to become the largest international cargo operator in the world, Chief Executive Officer Akbar Al Baker told reporters during a visit to Seattle to take delivery of the first of Qatar Air's two 747-8 freighters.

Boeing has been scrambling to land additional 747 orders to extend the commercial life of its iconic hump-backed jet into the next decade. The Chicago-based planemaker had 20 unfilled jumbo orders as of the end of August, including the two jets now identified as bound for Qatar Air. That's the equivalent of about three years of production at its current six-jets-a-year pace.

Qatar Air's cargo division is flourishing as demand rebounds from a lengthy slump, with industry-wide loads up 11 percent this year through July, according to the International Air Transport Association. Qatar ranked as the world's fourth biggest air-freight carrier last year by tons moved and second only to Dubai-based Emirates excluding specialist operators FedEx Corp. and United Parcel Service Inc., based on IATA data.

The flight embargo imposed in June by neighboring nations to penalize Qatar actually has provided a benefit, Al Baker said. Air-freight deliveries have climbed 160 percent from a year ago as Qatar Air has airlifted in fresh food, medical equipment and other supplies. Four Arab nations severed diplomatic and transport links with Qatar as punishment for allegedly backing Islamic militants, a charge the Gulf nation denies.

Unintended Boon

"I'm pleased to tell you today that in fact the blockade has quite the opposite impact on our business to the one intended," Al Baker said. "Our adversaries thought they would bring us to our knees and we would capitulate, but this didn't happen."

He dismissed any suggestion that Qatar Air might delay aircraft orders because of the blockade or slowing travel growth in the Middle East. "We are not studying any deferrals because Qatar Airways' aircraft orders are not all growth airplanes," Al Baker said. "They are also fleet replacement."

The carrier plans to take all 110 of the Boeing 777X planes that it has committed to buy from Boeing through orders or options. And it expanded a previous order for 44 of Boeing's 777-300ER by four aircraft, a deal previously recorded on Boeing's backlog without disclosing the buyer. Combined with the two jumbos, the aircraft are worth $2.16 billion at list prices before the customary discounts.

Qatar Air has decided to take all of the Airbus SE A350 aircraft it has on order, reversing an earlier plan to cancel four deliveries, Al Baker said.

As to Qatar Air's ongoing war of words with U.S. carriers over access to the world's biggest aviation market, Al Baker advised its rivals to "shut up and mind their own business." The Mideast company's expansion should continue with the closing of a deal to take a 49 percent stake in Italy's Meridiana as early as this month, he said.

*(**PROJECT** – continued from page 12)*

results to test the model. After that, the process moved to applying the model to live data without known results. The model analyzed the information given and provided a score as to whether the address in question was more likely a residence or a business.

A field test of the process showed the data model provided 20% better predictions than manual processes, with 80 percent fewer false positives. Next steps include testing more data, piloting the process in two other countries, and then rolling it out to 37 countries in the DHL network.

*(**DATA** – continued from page 12)*

be located in post offices or supermarkets, where customers can enter a code to retrieve the goods held inside. That's a trend that's caught on in Europe, less so in the United States. "But the culture is changing," said Aitken.

Drive to - Delivery to Autos

In Germany, DHL Express is pioneering consumer deliveries to automobiles. In that case, the company ascertains the location of the vehicle and the DHL driver receives a one-time code that allows him to pop the trunk and place the delivery inside.

"We don't charge for these services," noted Aitken. "It benefits us and the customer. We become more efficient and we are able to cut down on delivery failures."

DHL Express' original Insight effort started in 2009 in an effort to consolidated its fragmented costing systems. Back then each of the 150 countries in the world the company served had a different system, and that included paper systems, Excel spreadsheets, and other software programs. "Insight was our first global comprehensive costing system," said Aitken. "We were able to switch off an entire suite of legacy apps and achieved downstream savings."

But the point of the Insight project was less to get rid of legacy systems and more to get at the data that supports pricing and cost management. "More than sunsetting legacy apps," said Aitken, "we knew that the data was where the value would be coming from."

Since Insight was inaugurated seven years ago, the number of shipments being handled by DHL Express doubled, straining the processing power of the original system. The company could have decided to add more fire power but decided to go in a different direction.

"We didn't want to keep throwing processing power on a ten-year old app," said Aitken. "Instead we took the lessons learned and decided to strip down, redesign, and rebuild the system."

The new system is being designed to use 70% less data, 50% fewer activities, and 50% less effort. "That's going to make the new system faster and better," said Aitken.

Data will be cut down by moving all relevant data into a single global data warehouse, something that would have been impossible seven years ago. The cutback in activities comes from learning the lessons of the older system.

"In 2009 we developed a comprehensive list of activities we thought would be useful," said Airken. "Since then we realize that some have not been used at all and some activities can be merged."

The ease of effort comes from completely replacing what proved to be a very clunky third-part user interface in the old system. "If the user experience is bad you tend to lose interest and that impacts data quality," said Aitken.

Data in the new system will be available on a monthly basis in half the time it took in the old. The new system will also get rid of data—such as for special delivery situations—that do not recur. The new system will also deploy modular algorithms, so that changes made in one area will not have to recalculated for each aspect of the system.

The new system will also be scalable. "That way," said Aitken, "when our shipments double again, there will no problem with system capacity."

Ultimately, DHL Express wants to move from reporting about the past to predicting the future. "We want more insight into the impact on the company in light of changes in schedules, pricing, and costs," said Aitken. "If we are considering a network change, we want to make sure we are making the right investments. If are planning to open a new facility, we want to make sure the business is there to support it.

"Data on shipment costs and profit will enable us to do all sorts of analytics on the company and that data will help us grow the company," Aitken concluded. "The company that makes the best use of data will be the most successful."

*(**DEBUTS** – continued from page 9)*
of hydrocarbons (HC), and 14 tons of carbon monoxide (CO) emissions over the life of the equipment. The electric engine will also result in additional reductions in both greenhouse gases (GHG) and noise."

The project is being funded in part by a U.S. Environmental Protection Agency (EPA) $1.3 million Diesel Emissions Reduction Act (DERA) grant to the City of Los Angeles Harbor Department. The remaining cost of the $5 million crane replacement project is being funded by SA Recycling, which will own, operate and maintain the crane at the Port. This project is in alignment with EPA's plan to reduce emissions from diesel fleets and thereby reduce the local air pollution.

"In light of SA Recycling's continued contributions toward preservation of the environment we are pleased to take this positive step forward," said Terry Adams, executive vice president of SA Recycling. "Our investment in this crane is an investment in the community and our employees, which we celebrate."

"Replacing older equipment with new greener technology is one of many strategies that the Port and our customers are pursuing to improve air quality in our surrounding communities and greater Los Angeles air basin," said Port of Los Angeles Executive Director Gene Seroka. "This project is also a great example of how public-private partnerships can be leveraged to make air quality improvements happen."

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*(**BLUEPRINT** – continued from page 10)*
power they go back to their base, where a robotic system switches the old battery for the new battery and then they go back to work. This system is more productive and reliable than a human operated system," the designer said.

The same holds true for the electric-powered system of stacking and delivering containers through an automated conveyor belt. This moves containers forward until they are ready for pick up by trucks or moved to the on-dock rail lines.

LBCT's ultimate capacity to handle 3.1 million twenty-foot unit containers per year will be due to the AGVs, the automated stacking, and dual hoist gantry cranes that are manned and highly efficient. These components are electrically powered and generate zero emissions.

The terminal still requires longshore labor to operate cranes, supervise operations and perform maintenance and repair on equipment.

As the Port of Long Beach prepares for handling 18,000 to 20,000 TEU container ships, the Port's $1.3 billion investment and the $650 million investment by terminal owner, Orient Overseas Container Line will pay off, the designer said.

Ships of over 14,000 TEUs cannot transit the Panama Canal so there will be a competitive advantage to run California to Asia mega-ships once LBCT is fully operational.

Port of Rotterdam

The designer noted that the Port of Rotterdam already operates several automated container terminals, similar to LBCT, at the Maasvlakte 2 site. He notes there have been problems ramping up as complex systems need to be integrated and don't always mesh at the commencement of operations.

Andy Barrons, senior vice-president for Navis, the California-based software provider for container terminal systems integration, told the Propeller Club of Northern California in September that the new automated container terminals at Rotterdam and Long Beach are working through systems integration issues and will soon be operating at full capacity.

Navis has provided a platform for other software developers to design products that integrate the various terminal operations without mechanical functions. This complements the use of electric power that can generate zero or near zero emissions.

Rotterdam Shortsea Terminals

The Dutch designer said that Rotterdam Shortsea Terminals in Rotterdam (RST) has a throughput of 1.5 million TEUs per year primarily based on 8 wide boom electric powered gantry cranes backed by multi-container carriers that use an electric

*(**BLUEPRINT** – continued on page 22)*

Engaging in a discussion on carrier risk are, from left, Ulrich Ulrichs, chief executive officer of Rickmers-Line; Frank Fischer, managing director for tonnage procurement at Intermarine LLC; Ed Bastian, director of global sales at BBC Chartering; Brent A. Patterson, senior vice president for global projects at Blue Water Shipping; Jake Swanson, global logistics director for CB&I's Engineering and Construction Group. (Photo by Paul Scott Abbott, AJOT)

Project carrier vetting held as vital, but common standard seen elusive

By Paul Scott Abbott, AJOT

Careful vetting of carrier partners is essential in today's breakbulk and project cargo environment, but a standard evaluative process is likely to remain elusive, according to industry leaders.

The discussion on vetting was among several timely dialogues taking place in conference sessions of Breakbulk Americas, held Oct. 17-19 at the George R. Brown Convention Center in Houston.

Ed Bastian, director of global sales at Germany-based worldwide project carrier BBC Chartering, kicked off the panel chat saying he sees recent indications of strong demand and growing trade volumes in a sector that, like containerized cargo shipping, has been impacted for several years by overcapacity, low freight rates, collapse of commodity prices and various econo-political crises.

The currently risk-filled industry environment, with some carriers going out of business and banks pulling vessels, makes a meticulous vetting process all the more imperative, according to Jake Swanson, director of global logistics for The Woodlands, Texas-based energy industry

*(**VETTING** – continued on page 19)*

Technology is a focus for panelists, from left, Alex Azparrent, global logistics director for Fluor Corp.; Amy Stepka, senior project manager at GE Power; Todd Arnold, global category manager for international, inbound and project logistics at Shell Global Solutions; Stacia Ellis, manager of overhaul logistics and prep community liaison for the Solar Turbines Inc. unit of Caterpillar Inc.; Gary Sostack, administrator of the logistics and services division of Aramco Services Co.; and John Hark, regional director for North America and chief operating officer for South America at Bertling Logistics. (Photo by Paul Scott Abbott, AJOT)

Shipper and carrier roundtable participants, from left, Wolfgang Freese, president of Hapag-Lloyd Americas; Klaus Schnede, manager of North America marine at Eastman Chemical Co.; Allen Clifford, executive vice president of Mediterranean Shipping Co.; Marlon B. Jones, manager of international distribution at International Paper Co.; Mario Giannobile, senior director of North America sales for Maersk Line. (Photo by Paul Scott Abbott, *AJOT*)

Shippers hope carriers will partner in meeting challenges, conferees told

By Paul Scott Abbott, AJOT

Beneficial cargo owners are hopeful that ocean carriers will collaborate with them in mutually addressing challenges, according to commentary at the South Carolina International Trade Conference.

International Paper Co.'s manager of international distribution, Marlon B. Jones, was among major shippers voicing such a view during sessions of the event, which was held Oct. 30-Nov. 1 in Charleston.

"We had an opportunity to kick them in the teeth, and we didn't," Jones said, referring to carriers and the historic low freight rates of recent times, adding that shippers will soon begin finding out which container lines are reciprocally supportive.

Jones said his Memphis-based firm, the world's largest pulp and paper company, has been challenged to secure a sufficient supply of containers to load with its products and also has encountered difficulties in getting needed shipment information.

"I want to know where my product is at all times, and, no, I'm not getting that," he said.

Jones called for a better balance between the interests of BCOs and carriers, but pragmatically commented, "I really want to see the industry become healthy, but my job is making sure my company is healthy."

Eastman Chemical Co.'s manager of North America marine, Klaus Schnede, said that, in his procurement role for the Kingsport, Tennessee-based global leader in specialty chemical production, he has found himself dissatisfied with customer service aspects of today's heavily consolidated ocean carrier business.

"Some of the carriers are going in a direction we don't like," Schnede said. "It's tough to get hold of the right person to fix things when they go wrong."

Schnede said he believes it is imperative for carriers and BCOs to work together to provide an environment that is favorable to both parties.

Schnede also expressed concerns about potential impacts of the International Maritime Organization mandate requiring use of cleaner-burning vessel fuels beginning January 2020, as well as the integration of the three major Japan-based container carriers – "K" Line, Mitsui O.S.K. Lines and NYK Line – to be effective April 2018.

Ocean carrier executives speaking on the same panel attempted to assuage the shippers' anxieties.

Allen Clifford, executive vice president of Mediterranean Shipping Co., said he believes there is room for increased cooperation, including in getting containers where they are needed, and he reiterated that ocean rates "must be remunerable."

Clifford said the resin boom projected for 2018 through 2021 should be of greater concern than overcapacity as alliances deploy more bigger ships, noting that, when he joined the industry in 1978, there was talk of overcapacity amid questions whether it would be possible to fill that bygone era's largest container vessels, which could hold a mere 3,000 twenty-foot equivalent container units, a small fraction of the capacity of the behemoths of today and tomorrow.

Clifford also called for betterments in internal freight transportation infrastructure, including improving cargo flows via truck and rail, saying, "Without that,

*(**PARTNER** – continued on page 20)*

Charleston Harbor project sets course for completion

By Paul Scott Abbott, AJOT

The endeavor to deliver South Carolina's Port of Charleston a 54-foot-deep entrance and 52-feet-deep inner shipping channel is on course for completion by as early as mid-2021, according to an update provided on the opening day of the South Carolina International Trade Conference.

"We are basically at a monumental point in time," Jim Newsome, president and chief executive officer of the South Carolina Ports Authority, said Oct. 30 prior to announcing the award of a second contract for entrance channel dredging work that will enhance Port of Charleston accessibility for big containerships.

Lt. Col. Jeffrey Palazzini, district engineer and commander of the Charleston District of the U.S. Army Corps of Engineers, provided the conference gathering at the Charleston Gaillard Center with a deliberately "wide window" for completion of the entire project, including inner harbor areas, of 40 months to 76 months from the initiation of dredging this February. That equates to finishing the full job somewhere between June 2021 and June 2024, with cited variables including weather and equipment availability.

South Carolina Gov. Henry McMaster joined in the ceremony, emphasizing the importance of securing requisite federal funding, saying of the channel, "It's deep. It's getting deeper. And we've got to make sure we get the federal money."

The South Carolina General Assembly gave the project a kick start in 2012 by setting aside $300 million for the undertaking, and U.S. Sen. Lindsey Graham, R-S.C., has led efforts to get the project in the Corps of Engineers budget.

*(**COMPLETION** – continued on page 22)*

Beaming upon announcement of Charleston Harbor deepening progress are, from left, Jim Newsome, president and chief executive officer of the South Carolina Ports Authority; South Carolina Gov. Henry McMaster; Lt. Col. Jeffrey Palazzini, commander of the Charleston District of the U.S. Army Corps of Engineers; David Simonelli, president of dredging operations for Great Lakes Dredge & Dock Co. LLC. (Photo by Paul Scott Abbott, *AJOT*)

Breakbulk Americas attracts 4,500-plus to Houston for industry sector's big event

By Paul Scott Abbott, AJOT

Thousands of leaders of the breakbulk and project cargo industry already are making plans to return to Houston next October, following participation in what is billed as the Americas' largest conference and exhibition for the sector.

Less than two months after the Houston area was inundated by flooding from Hurricane Harvey, the George R. Brown Convention Center was filled not with storm refugees but rather attendees of the 28th annual Breakbulk Americas.

The Oct. 17-19 mega-event, hosted by Port Houston, kicked off with a three-hour exhibition hall reception on Oct. 17, allowing ample time for informal interactions.

Organizers placed the overall event registrant number at 4,555, just shy of the count for the year-earlier conference and exhibition. The 29th annual edition of Breakbulk Americas is slated for the same venue Oct. 2-4, 2018. *(For reports on conference business sessions, see page 15.) (Photos by Paul Scott Abbott, AJOT)*

(L to R) Phyllis Saathoff – Port Freeport, Mike Wilson – Port Freeport, Darlene Ruiz – Mediterranean Shipping Co., Joe Webb – Clipper Steel Services, Jason Miura – Port Freeport, Robert Hawn – West Gulf Maritime Association.

(L to R) Greg Schruff – SSA Marine, Ronnie Hicks – Port of Port Arthur, Anthony Theriot – Port of Port Arthur, Matt Sparks – SSA Marine, Jeanette Uscanga – SSA Mexico, Jaime Sasso – SSA Mexico, Jorge Peña – SSA Mexico.

(L to R) Patricia Cardenas – Port Corpus Christi, Andy Gossett – Gulf Stream Marine Inc., David Cottrell – Deugro (USA) Inc., Maggie Iglesias-Turner – Port Corpus Christi, Palle Mathiesen – Port Corpus Christi

(L to R) Mark Hoskins – Gulf Stream Marine Inc., Steve Tyndal – Port of Brownsville, Tony Rodriguez – Port of Brownsville, Guillermo Rico Leal – Port of Brownsville

(L to R) Ludovica D'Angelo – Mediterranean Shipping Co., Pieter Luykx – Mediterranean Shipping Co., Burak Gungor – MTS Logistics Inc., Jessica Darby – Mediterranean Shipping Co., Paolo Magnani – Mediterranean Shipping Co.

(L to R) Ernest Bezdek – Port of Beaumont, Jeff Hakala – (Retired) Ceres Terminals, Linda Nagel – Maritime Fund, Alli McEntyre – Breakbulk Media & Events, Edwin Bastian – BBC Chartering USA, Steve Garifalos – BNSF Logistics

(L to R) Torin Swartout – Spliethoff Group, Bart Zonneveld – Spliethoff Group, Susanne Dreyer – Marine Shipping Switzerland, Raimond den Breejen, Onego Shipping & Chartering, Oleg Kharitonov – Onego Shipping & Chartering

(L to R) Rusty Kunz – Port Houston, Sultan bin Abdullah Al-Angari – Saudi Consulate of Houston, Wael Al-Sarhan – Bahri Logistics, Stephen Blowers – Bahri Logistics, Khalid Al-Khofi – Bahri Logistics

(L to R) Andre Grikitis – Intermarine LLC, Svend Andersen – BBC Chartering, Barry Irish – BBC Chartering, Robert Herb – Terminal Shipping Co.

(L to R) Neo Stellas – Eukor Car Carriers, Chuck Dobeck – Universal Logistics, Kibo Bodøgaard – Wallenius Wilhelmsen Logistics, Doug Kachinsky – Wallenius Wilhelmsen Logistics

(L to R) Lindsey Harris – Port of Longview, Erik Zander – Omega Morgan, Laurie Nelson-Cooley – Port of Longview, Chris Stenzel – Nooter/Eriksen

(L to R) Marcus Guenther – Fracht USA, Frank Camp – Jacksonville Port Authority, Aisha Eccleston – Jacksonville Port Authority, Rick Schiappacasse – Jacksonville Port Authority

(L to R) Jeff Henn – Tri-State Maritime Services, Michael Marzahl – XL Lifts, Tom Adger – Tri-State Maritime Services, Perry Collins – Gulf & Atlantic Maritime Services

(L to R) Jim Forsyth – Port Tampa Bay, Sal Kass – Port Tampa Bay, Jeff Allen – Coastal Cargo, Greg Lovelace – Port Tampa Bay

Taking part in a Mexico-centered panel discussion are, from left, Brandon Strange, assistant manager of logistics and transportation for Mitsubishi Hitachi Power Systems Americas; Raul Cuevas, commercial manager of Transportes Muciño; Gabriela Jonasson, senior projects logistics manager for Latin America at Siemens Gamesa Renewable Energy; Jurgen Hess, chief executive officer of IPA Steel Terminal; and Armando Lee, operations manager for ICI Proyectos and BASE Logistika. (Photo by Paul Scott Abbott, *AJOT*)

(***VETTING** – continued from page 15)*
technology and infrastructure provider CB&I's Engineering and Construction Group.

"The way that shippers are protecting themselves is by not shipping much," Swanson said with a smile, continuing, "No, that was a bad joke. Actually, we are protecting ourselves by keeping our group of carrier partners to a tight list of those with whom we have longstanding trusted relationships and that have gone through rigorous annual vetting processes."

Frank Fischer, managing director for tonnage procurement at Houston-based project, breakbulk and heavylift carrier Intermarine LLC, said he believes a "common vetting agreement" between carriers and engineering, procurement and construction companies, known for short as EPCs, would be beneficial, as the process currently is carried out via myriad disparate procedures.

The head of another global specialized carrier in the sector, Ulrich Ulrichs, chief executive officer of Germany-based Rickmers-Line, said he also would like to see a standard model for the vetting process, as the present variety of methods exacts undue costs.

"We are very transparent and welcome vetting," Ulrichs said. "But it's different every time, and that's a bit of a problem."

Ulrichs nonetheless conceded, "I think, honestly, a common standard is not going to happen."

Brent A. Patterson, senior vice president for global projects at Houston-based Blue Water Shipping, concurred that a vetting standard may be ideal but that there is simply too much variation in requirements by region and mode.

On a positive note, Patterson said he perceives "an upside to a down market," in that the abundant supply of available vessels often facilitates favorable spot rates for those booking project transport. And each of the other panelists indicated optimism, at varying levels, that the project cargo shipping business will be in better shape somewhere between two and five years from now.

A separate panel, featuring project cargo shippers, opened with Alex Azparrent, global logistics director for Irving, Texas-based worldwide EPC leader Fluor Corp., saying he sees "some modest signs" of business picking up in the project arena, adding, "I don't think there are any small projects anymore. Everything is a megaproject."

Azparrent said he believes technology will play an increasing role as Fluor takes a modular approach to projects and utilizes radio-frequency identification, or RFID, tracking tags on commodities such as pipe, cable and structural steel.

Members of the shipper panel agreed on the importance of technology, with

(***VETTING** – continued on page 22)*

Rodger Baker, vice president of strategic analysis for Stratfor, sees a serious threat of nuclear war in "an unbalanced world seeking equilibrium." (Photo by Paul Scott Abbott, *AJOT*)

Favorable outlook for projects seen by keynoter at Breakbulk Americas

By Paul Scott Abbott, AJOT

A favorable outlook is seen for energy-related project opportunities, according to engineering, procurement and construction company executive Ed Gore, speaking Oct. 18 in the opening keynote session of the 28th annual Breakbulk Americas conference and exhibition, hosted by Port Houston.

Gore, who recently transitioned from vice president of marketing and business development at Houston-based Bechtel Oil, Gas & Chemicals Inc., to leading a Bechtel joint venture in Kazakhstan, said the recent uptick in global gross domestic product puts EPC companies in "quite a favorable position."

"GDP really influences all the markets we're involved in – oil, gas and chemicals," Gore said.

Many Bechtel clients are now looking to gas-related projects rather than oil opportunities, Gore said, commenting, "Gas is the new oil for some of our customers."

The abundant supply of affordable gas also is driving a rise in U.S. petrochemical projects, Gore said. (The original version of the above first appeared Oct. 18 as a blog at www.ajot.com.)

Ed Gore, who is leading a Bechtel Oil, Gas & Chemicals Inc. joint venture in Kazakhstan, opens the Breakbulk Americas conference in Houston. (Photo by Paul Scott Abbott, *AJOT*)

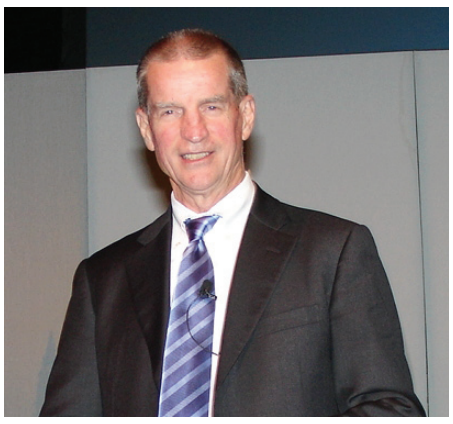
(*PARTNER – continued from page 16*)
nothing is going to change."

Wolfgang Freese, president of Hapag-Lloyd Americas, said he thinks there is "room for improvement" in the U.S. container supply chain. For example, he said, the United States is rare in that, unlike in most other countries, container terminals typically are not operated on an around-the-clock basis.

Maersk Line's senior director of North America sales, Mario Giannobile, said collaboration is vital, stating that it is important for carriers to know what "reliability" means to customers and to then work together toward meeting such defined requirements.

Another industry veteran, Bill Rooney, a former carrier executive who now serves as vice president for North America trade management for Switzerland-based freight forwarding giant Kuehne + Nagel, said in a solo presentation that he does not believe customers see a significant material difference between ocean carriers and their rates but that there's room for enhancing BCO-carrier relationships.

"The two things that can help the most are trust and transparency of information," Rooney said.



Bill Rooney, Kuehne + Nagel's vice president for North America trade management, emphasizes the importance of trust and transparency of information in shipper-carrier relationships. (Photo by Paul Scott Abbott, *AJOT*)

One thing that throws off carriers, according to Rooney, is the high frequency of incidences in which shippers say they will have cargo for a particular sailing but ultimately do not. He said such "no-shows" currently represent between 15 and 20 percent of bookings in trans-Pacific trade.

Rooney said the normal market response might be for container lines to impose penalties for no-shows, but such measures have yet to work, so, he said, the only answer for carriers might be to lower capacity.

However, capacity is seen as going up not down, according to Tan Hua Joo, executive consultant for London-based industry data provider Alphaliner, who said he does not anticipate any deferrals in orders for larger containerships, including those with capacities upward of 18,000 TEUs.

"All the owners want to take them as quickly as possible due to economies of scale," Tan said, noting that, by 2020, the three major container carrier alliances look to take delivery of a combined total of 125 megacontainerships.

Tan cautioned, though, "Capacity additions will impede further rate recovery."

Tan Hua Joo, consultant for Alphaliner, expects independent container lines to continue to struggle but to succeed in staving off bankruptcy. (Photo by Paul Scott Abbott, *AJOT*)

Tan said he sees independent container lines such as Hyundai Merchant Marine and Zim Integrated Shipping Services, which he defined as "marginal carriers," continuing to struggle. But he said he does not believe stakeholders will allow such lines to wind up in bankruptcy, as was the case in 2016 for South Korea's Hanjin Shipping Co. Ltd.

Philip Damas, director and head of the supply chain advisory practice of London-based Drewry Shipping Consultants Ltd., said he believes BCOs face numerous challenges, including related to pricing and freight rates, securing of capacity, real-time end-to-end shipment visibility, longer outgate times associated with larger containerships and what he sees as a major structural shift toward "oligopoly" of ocean carriers.

Philip Damas, director and head of the supply chain advisory practice of Drewry Shipping Consultants Ltd. (Photo by Paul Scott Abbott, *AJOT*)

"BCOs face both some old inefficient shipping industry problems and new e-commerce-related challenges in container shipping," Damas said, going on to say, "Many new and emerging e-business solutions could address some of the challenges faced by shippers."

In another session, Valerie Jacobs, import compliance manager for Matthews, North Carolina-based Family Dollar Services Inc., which is responsible for shipments to more than 8,000 U.S. stores under Family Dollar and Dollar Tree names, underscored the importance of BCOs partnering with U.S. Customs and Border Protection, including in participation in CBP's Importer Self-Assessment, Customs-Trade Partnership Against Terrorism and nascent Trusted Trader programs.

"Compliance is such an important part of what you do on a day-to-day basis," Jacobs said in addressing service providers as well as BCOs, intoning that program participation is well worth the efforts involved with admittedly "scary" application processes and ongoing procedures.

Family Dollar Services Inc.'s import compliance manager, Valerie Jacobs, urges beneficial cargo owners to forge productive partnerships with U.S. Customs and Border Protection. (Photo by Paul Scott Abbott, *AJOT*)

A CBP official, Brian J. McKenzie, said that, since he joined the agency in 1991, it has shifted from a "gotcha mentality" to a more collaborative stance.

"We would rather teach people to do things right rather than catch them doing things wrong," said McKenzie., who has served as a supervisory import specialist at the Port of Charleston and, most recently, a course developer and instructor at CBP's Field Operations Academy in Charleston. *(For reception photos, see page 21.) (Photos by Paul Scott Abbott, AJOT)*

South Carolina trade conference draws nearly 500 to Charleston Gaillard Center

By Paul Scott Abbott, AJOT

Downtown Charleston's world-class performing arts center provided a perfect venue for the 44th annual South Carolina International Trade Conference.

Nearly 500 industry leaders were drawn to the Charleston Gaillard Center for the Oct. 30-Nov. 1 conference, which had originally been set for Sept. 11-13 but had to be rescheduled due to the impending arrival of Hurricane Irma.

In addition to business sessions, the event featured evening functions, optional golf and tennis and an Oct. 30 reception that gave attendees time to chat and to pose for the *AJOT* lens. *(For reports on conference business sessions, see page 16.) (Photos by Paul Scott Abbott, AJOT)*

(L to R) Gary Morelli – SSA Cooper LLC, John Walsh – SSA Cooper LLC, Billy Adams – South Carolina Stevedores Association (retired), Zane Carin – Tico Tractors, Duncan Pindar – Tico Tractors.

(L to R) Ken Kellaway – RoadOne IntermodaLogistics, Chris Taylor – Wando Trucking, Steve Chandler – RoadOne IntermodaLogistics, Randy Bayles – Norfolk Southern Railway, Kendall Kellaway III – RoadOne IntermodaLogistics

(L to R) Paul Tellefsen – Positec Tool Corp., Colin Bryan – Positec Tool Corp., South Carolina International Trade Conference General Chairman Watt Jackson – Selee Corp., Sergio Fedelini – Mediterranean Shipping Co.

(L to R) Omar Kazzazz – Kazzazz & Co., Daniel Zupko – JAS Forwarding USA Inc., Suzanne Dickerson – SC Council on Competitiveness, Peter Straub – South Carolina Applied Research Center for Supply Chain & Logistics

(L to R) Rebecca Yang – South Carolina Ports Authority, Tiffany Bowman – Bernhardt Furniture Co., Freddie Davis – Global Shippers Association, Teresa Davis – Global Shippers Association

(L to R) Jamie Taylor – South Carolina Ports Authority, Peggy Golden – Hamburg Süd, Steve Sydow – KapStone Paper and Packaging Corp., Stephanie Kinsey – Hamburg Süd.

(L to R) Jill McClure – Expeditors International, Becky Lyons – Livingston International, Karen Carlin – Livingston International, Curtis Tambornino – Phoenix Logistics Inc.

(L to R) Ewelina Zmuda – Spanx Inc., Kay Whitley – Spanx Inc., Kelly Sturges – Expo Freight Logistics, Bethany Reinhardt – Dunavant Trans Gulf Transportation LLC

(L to R) Pete Conroy – Modern Terminals Ltd., John Painter – Port of Nansha, Jerry Tackett – Integra Logistics Services LLC.

(L to R) Jamie Caudle – Atlantic Intermodal Services, Robert Burnsed – Atlantic Intermodal Services, Brandon Burnsed – Dunavant Sea Lane Express LLC

(*VETTING – continued from page 19)*
Stacia Ellis, manager of overhaul logistics and prep community liaison for the San Diego-based Solar Turbines Inc. subsidiary of Caterpillar Inc., commenting that innovations can be put to greater beneficial use in enhancing visibility throughout the supply chain.

John Hark, regional director for North America and chief operating officer for South America for Germany-based Bertling Logistics, said he believes project forwarders are ideally positioned to advance technological innovations and now, during a relatively slow time for business, is a perfect time to work creatively on "meaningful modernization."

Gary Sostack, administrator of the logistics and services division of Aramco Services Co., the Houston-based U.S. link for the state-owned oil company of Saudi Arabia, said RFID scanners are in place at 73 company warehouses in Saudi Arabia and that his firm sees vast possibilities for increasing applications, including on the resupply side.

Another energy company logistician, Todd Arnold, Houston-based global category manager for international, inbound and project logistics for Netherlands-headquartered Shell Global Solutions, said he looks to greater use of big data in making project shipping more predictive, but, he added, technology must be implemented by the right personnel.

"Technology is an enabler," Arnold said. "It's not a solution. It's got to come with people."

Amy Stepka, senior project manager for Schenectady, New York-based GE Power, was on the same proverbial page, commenting that she sometime feels technology can overtake the human element.

"There's still a need for human contact," Stepka said. "There needs to be a balance."

A Breakbulk Americas panel session highlighting Mexico's energy sector focused on what was described as "a booming market" by Brandon Strange, assistant manager of logistics and transportation for Mitsubishi Hitachi Power Systems Americas, who cited Mexican government figures indicating power generation projects bode to boost the country's electric production capacity from its present 63,000 gigawatts to 100,000 gigawatts by 2030.

That capacity is anticipated to further grow to 160,000 gigawatts by 2040, with multibillion-dollar investments not just in traditional sources but also in solar and wind, according to Armando Lee, operations manager for ICI Proyectos and BASE Logistika

Jurgen Hess, chief executive officer of IPA Steel Terminal, said his company's facility at the Port of Altamira has seen moves of 1,700 wind farm component units in the past year, and he looks forward to further increases in project cargo activity of various kinds as Mexican energy reform continues to be implemented. Hess said he also seems more project cargo moving through the Port of Tuxpan following recent completion of an improved highway link between that port and Mexico City.

Gabriela Jonasson, senior projects logistics manager for Latin America at Siemens Gamesa Renewable Energy, said she anticipates "a big challenge for the next year" as her company begins moving larger wind energy units, including longer blades and heavier nacelles.

Raul Cuevas, commercial manager of Transportes Muciño, said specialized transport companies such as his are prepared to provide customized means for getting heftier project cargos to Mexican destinations."It is my belief that the game-changer is going to be the tailor-made solution," Cuevas said. "No matter now tall, wide or heavy, we can always find a solution."

In a solo presentation, Susan Oatway, senior analyst with Drewry Shipping Consultants, said she sees multipurpose vessels with heavylift capability continuing to be increasingly deployed as opposed to simple MPVs without such specific ability to carry project cargo. She said the order book for the project-capable MPVs nevertheless remains "manageable," with some orders for those ships being delayed by a year or two.

And another industry expert observer – Rodger Baker, vice president of strategic analysis for Austin, Texas-based geopolitical intelligence firm Stratfor – offered a chilling thought, opining that, in "an unbalanced world seeking equilibrium," the threat of nuclear war involving North Korea is "very serious," with such risk more likely attached to accident than intent. *(For Breakbulk Americas reception photos, see page 18.) (Photos by Paul Scott Abbott, AJOT)*

Port of Oakland to address trucking issues

New plan due in 2018 would address trucking in West Oakland

The city of Oakland and Port of Oakland officials are meeting with neighbors to hear concerns about big rig traffic on streets in West Oakland. The agencies say they anticipate a new West Oakland Truck Management Plan by the fall of 2018 that will address trucking problems in the area. The goal: steer heavy truck traffic away from West Oakland residences bordering the Port.

"This will be a plan that relies on community input to address truck circulation and parking," said Patricia McGowan, Senior Planner for the City of Oakland Planning and Building Department. "We want trucks to be less disruptive."

Officials spoke last month at the first of five community workshops in West Oakland to be conducted by the City and Port. About 100 people attended to provide their views on diesel-powered semis hauling cargo containers near their homes and businesses. Among the concerns:

- Safety;
- Lack of truck route signs;
- Diesel exhaust;
- Big rigs parked in residential neighborhoods.

About 3,000 trucks daily transport containers in Oakland, said Richard Sinkoff, the Port's Environmental Programs and Planning Director. Most of that traffic sticks to Port roads or nearby freeways, he said. But truckers in search of fuel, food or repairs, sometimes detour through nearby West Oakland.

The City designated truck routes around the area in 2005, said Ms. McGowan. But not every driver stays on track, she pointed out. The new plan will specify where trucks can drive and park. It will also strengthen enforcement of truck restrictions.

The City and Port are conducting workshops to find out what else needs to be in the plan. "That's why we are holding the public meetings and encouraging public input," said Ms. McGowan.

The City and Port said they are already taking steps to steer freight-haulers away from residential neighborhoods. Truck service centers are planned at the Port and at an adjacent City development so that drivers won't have to venture into West Oakland for fuel, food and other services.

(*BLUEPRINT – continued from page 15)*
powered winch system to move 9 containers at a time from the pier to an intermediate point where cranes deposit them onto trucks.

RST employs 250 workers and supervisory personnel. The Southern portion of the terminal is all electric-powered using a 10 Kilovolt power supply that comes from the grid. This powers the cranes and multi-container movers. This results in very low costs for loading and unloading container ships.

RST will be expanding its crane capacity to 5 additional cranes at an adjoining property with ultimate plans for an additional 5 cranes for a total of 10 new cranes with the potential to double its existing capacity.

The terminal handles ships of 700 to 1,000 TEU container ships, but the new terminal expansion will allow cargo-handling of 1000+ TEU ships.

The designer said U.S. ports looking to improve productivity and reduce emissions should adopt the LBCT system. The ports will need to invest $2 billion per terminal, but will have the capacity to handle the largest container ships.

(*COMPLETION – continued from page 16)*
The latest contract is for $213 million with Oak Brook, Illinois-based Great Lakes Dredge & Dock Co. LLC, the same firm that in mid-September was awarded the Charleston Harbor project's first dredging contract – a $47 million pact – also for entrance channel work. Contracts for the work to deepen the inner main shipping channel have yet to be tendered.

Great Lakes Dredge & Dock Co.'s president of dredging operations, David E. Simonelli, said the latest contract is the biggest U.S. agreement ever for his company, which is the largest U.S. provider of dredging services. The company completed deepening of the PortMiami channel in 2015, and its current work includes engagement with dredging of Savannah Harbor in Georgia.

Simonelli defined the Charleston effort as "a complicated and difficult project" and told *AJOT* that the first hopper dredge is slated to be on site in Charleston Harbor in February, to be joined in May by a cutter suction dredge designed to excavate the limestone rock characteristic of the area. A backhoe dredge is to be deployed next, to be deployed in development of a berm around the offshore dredged material placement site, as well as formation of nine artificial reefs.

Simonelli told *AJOT* that the work under the two contracts, encompassing an 18-mile length of entrance channel and excavation of more than 20 million cubic yards of material, must contractually be completed by December 2020.

The Port Charleston, which is reporting record container volumes moving across its docks, already has received calls from megacontainerships with capacities of as many as 14,000 twenty-foot-equivalent units that are now able to transit the expanded Panama Canal.

In addition to the deeper channel, SCPA is advancing landside infrastructure projects aimed at efficiently handling more super-sized neo-Panamax vessels, including wharf strengthening and modernization at the venerable Wando Welch Terminal, slated for spring 2018 completion, and construction of the new Hugh K. Leatherman Terminal, to open in mid-2020. *(The original version of the above first appeared Oct. 31 as a blog at www.ajot.com.)*

ADVERTORIAL

BIG SHIPS ARE BECOMING THE NEW NORM FOR PORT OF NEW YORK AND NEW JERSEY

An interview with Bethann Rooney, Assistant Director, Strategy and Innovation

Q. *What was the reasoning behind raising the Bayonne Bridge and how was the height determined?*

Bethann Rooney: "Around 2008, The Port Authority of New York and New Jersey [PANYNJ] identified the need to raise the Bayonne Bridge. In our subsequent discussions with the ocean carriers, the containership operators were indicating the maximum vessel size the port would receive would be approximately 12,000 TEUs. But what you have witnessed since is an explosion of larger containerships moving all around the world. In fact, when we celebrated the completion of the Bayonne Bridge on September 7th, we welcomed a much larger ship, a 14,414 TEU vessel [the CMA CGM T. Roosevelt]. Fortunately, we had designed the bridge to the maximum air draft of 215 feet. This is the same height of the Verrazano-Narrows Bridge, which enables incoming ships to clear both spans."

Q. *How was the Bayonne Bridge Project funded and what was the construction timetable?*

Bethann Rooney: "Raising the Bayonne Bridge was identified by President Obama as a project that could be fast tracked through the regulatory process. Construction got underway once the project was approved, in mid-2013. It was entirely funded by PANYNJ, no Federal monies were used. We originally forecasted completion date at the end of 2016 but then the horrific winter of 2014-2015 forced us into a new schedule. However, the very mild winter of 2016-2017 allowed the contractors to make up for quite a bit of lost time. Some of this was through overtime, but more headway was gained by streamlining some aspects of the construction process. For example, the contract engineer changed how the lower roadways were to be removed. In earlier designs, the roadways were going to be dropped as segments, one by one into barges below. Ultimately, however, this process was redesigned and a vast majority of the roadway segments were taken off above the bridge and hauled away by trucks at road level. When the lower roadway was removed, the new air draft of 215 feet was certified [by the US Coast Guard] on June 8th."

Q. *Have you already seen the impact of the increased Bayonne Bridge air draft?*

Bethann Rooney: "We have. Though we figured the industry would need time to rotate larger vessels into the region, we've already begun to see progressively larger vessels throughout June, July, August. First we saw a 10,000 TEU vessel, then an 11,000 TEU, then a 12,000 TEU, all leading up to the 14,400-plus we saw on September 7th. That was the big celebration. Right now, we're in what I would consider the new norm for our port, where we regularly receive next-generation container ships."

Q. *What is the maximum size vessel the Port of New York & New Jersey now allows?*

Bethann Rooney: "Based on a simulation study conducted by the Sandy Hook Pilots, Metro Pilots, McAllister Pilots, New York Shipping Association, and the Port Authority, the maximum size is the 18,000 TEU class. That is not a definitive size, however, because every ship is designed differently. So there could be an 18,000 TEU that doesn't fit but there could be a few 20,000 TEUs that do."

Q. *How did the harbor deepening project fit in with the Bayonne Bridge project in making the Port of NY & NJ 'Big Ship Ready'?*

Bethann Rooney: "The Harbor Deepening Project began twenty years ago with authorization and appropriation through Congress and federal funding through the Army Corps of Engineers. It was conducted in stages, so in places we went from 35 feet to 40 feet, then 40 feet to 45 feet, and ultimately 45 feet to 50 feet. Because of this process there were numerous contracts issued in order to affect the 50-foot channel in both the main waterways and the approaches to each of our terminals. Concurrent with that, we were deepening a number of berths to 50 feet; that was all completed in September 2016. Combined, the 50-foot channel and 215-foot air draft make our port big ship capable. If you look back to 2012, just five years ago, just under 85% of all our containers came on ships 6,000 TEUs or less. And 13% were on a vessel 8,000 TEUs or higher. In 2017 year-to-date through August, 57% of all containers are on vessels 8,000 TEUs or larger. This speaks volumes to the change in vessel size. As you saw in our August 2017 numbers, we're handling more cargo on less ships. So now we might have one 10,000 TEU ship call us instead of two 5,000 TEU ships."

Q. *Has investment in terminals assets kept pace with the demands?*

Bethann Rooney: "PANYNJ has invested in the infrastructure outside the [terminal] gate --projects such as the bridges, channel deepening, roadway realignment, and capacity enhancements. We've also built out the on- dock rail facilities. Meanwhile, our terminal operators have been investing heavily inside their fence line. That's everything from ship-to-shore gantry cranes, more handling equipment, working on new gate systems, new terminal operating systems, new gate structures, and densifying their yards to the greatest possible extent. A great deal of this work has been completed, but it's still an ongoing process. Today, two of our terminals are still in the midst of major terminal investment and reconstruction. There are plans for some of our terminals to raise more cranes, and some terminals have new cranes on order. Again, it's an ongoing process of continued investment to yield continual improvement. Our goal is to keep up with, if not get ahead of the needs of the shipping community."

Q. *How does ExpressRail fit into the Port's distribution narrative?*

Bethann Rooney: "The Port of NY & NJ is predominately a local port: 85% of our cargo stays within 250 miles of the piers. That being said, the intermodal market is a very important component of what we do. PANYNJ invested over $600 million in our ExpressRail on-dock or near-dock intermodal rail system, which currently has three terminals. The original one still services Elizabeth, NJ, which is Maher and APM Terminals predominately. ExpressRail Newark serves Port Newark Container Terminal; ExpressRail New York predominately serves GCT (Global Container Terminal) in Staten Island. And the fourth ExpressRail is Port Jersey, which will service Bayonne and is under construction right now, with early capabilities coming online at the end of 2018. All told, we now have the capacity to handle 1.25 million lifts per year through the network. When the fourth facility comes online, we'll have capacity for 1.5 million lifts. If you look at our numbers for 2016, we did just over a half million. So we purposely designed the ExpressRail system for today and tomorrow. Currently, we move 15% of our cargo by rail, but our goal is to make that 20% by 2020. We are well on our way towards that target."

Q. *How has the Panama Canal expansion impacted vessel rotation in the Port?*

Bethann Rooney: "When we first announced a delay in completing reconstruction of the Bayonne Bridge, East Coast ports were worried; they knew those larger container ships were not going to begin using the Panama Canal until they could come to New York and New Jersey."
But we've now seen a shift our Panama Canal volumes. Last year 18.8% year-to-date of our port's activity came through the Panama Canal. This year, we're up to 24.8%. There are two things that play into that. First, the availability of the Panama Canal. Second, the mergers, acquisitions, and alliances that have taken place in the last year. In some cases, there has been a consolidation of routes. So instead of an around the world service, many shipping lines are doing an all-water service through the Panama Canal. Concurrently, we've seen rates through the Suez Canal drop from 50.5% to 41.8%. Two or three years ago, we saw the Suez portion increase as manufacturing shifted more from China into Southeast Asia, Vietnam, Indonesia, and the Indian Sub Continent. Now, with the expansion of the Panama Canal, we are seeing some shifts back to all-water services."