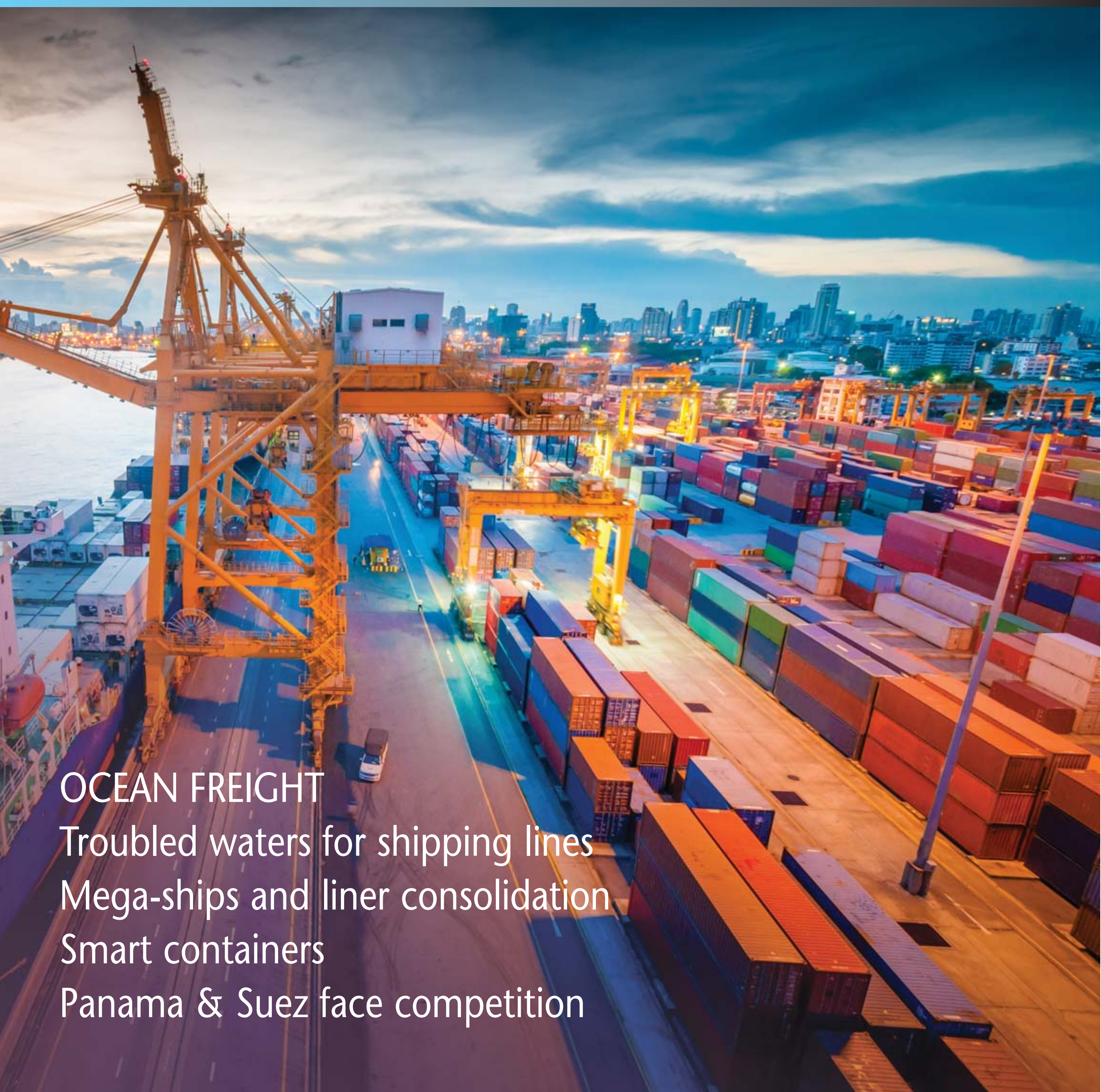
Agility

A New Logistics Leader

Tradelanes

THE MAGAZINE OF AGILITY ISSUE 26. VOL.1, 2016



OCEAN FREIGHT

Troubled waters for shipping lines

Mega-ships and liner consolidation

Smart containers

Panama & Suez face competition

Global pharma company consolidates and saves

A custom-designed consolidation center and end-to-end review of freight flows led to significant savings for a European pharma company using contract manufacturers in India.

Page 12

Also in this issue

Ocean freight in troubled waters

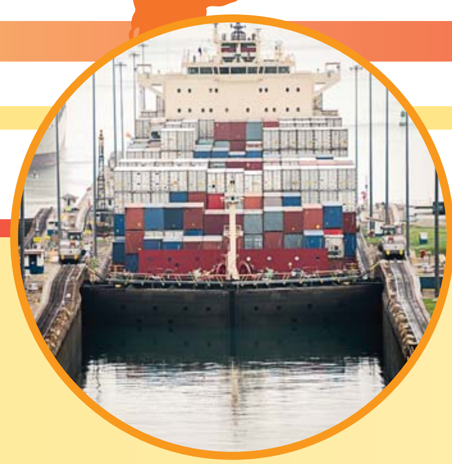
Carriers, shippers and forwarders struggle to get their sea legs as mega-ships, rapid industry consolidation and overcapacity roil the waters. Ocean rates have been at all-time lows, but that has brought volatility for importers and exporters, who crave stability and predictability. *Tradelanes* looks at the factors squeezing the industry and gets Cas Pouderoyen, Agility's global ocean freight chief, to talk about what's ahead and what it means for customers.

Page 2

Panama & Suez canals fight to stay relevant

The world's two major shipping chokepoints have been widened, deepened and further developed to accommodate mega-ships and lure more traffic. At the same time, cheap fuel entices carriers to sail around the capes, and new alternatives – rail from China to Germany, and an Arctic route from Asia to Europe – pose challenges.

Page 16



'Smart' containers: 24/7 visibility at last?

New technology that tracks individual containers and their contents could help shippers get full visibility into a murky area of the supply chain. It could also make ocean shipping viable for high-value cargo traditionally shipped by air.

Page 15

agility.com

Troubled waters

OCEAN SHIPPING ROILED BY CONSOLIDATION, MEGA-SHIPS, OVER-CAPACITY

A new reality for shipping lines and their customers

Battle for survival

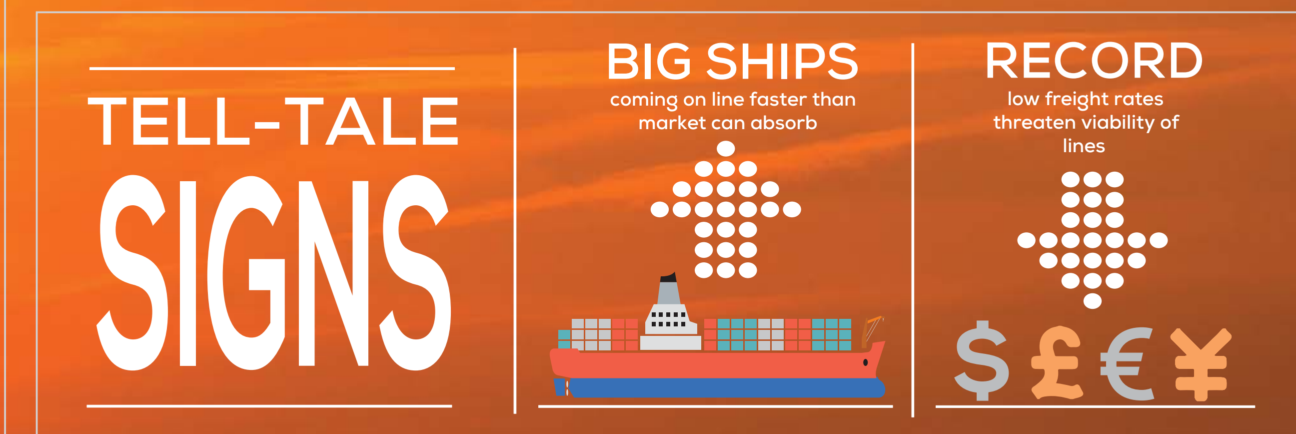
Companies moving goods by ocean are encountering rough seas amid an unprecedented wave of carrier consolidation and the introduction of massive new container vessels that are swamping the industry with excess capacity.

The addition of new mega-vessels has coincided with a drop in both trade volumes and oil prices, leading to record-low ocean freight rates for customers. But ocean carriers have been forced to make painful adjustments to bolster capacity utilization and rationalize their costs. On the operations side, they are sharing vessels and trying to pare duplication of routes and port calls by fiddling with schedules, skipping sailings, or "slow steaming" to further lower fuel costs.

For importers and exporters, the changes have led to confusion on the water, port side, and up and down the supply chain. Chris Welsh, Secretary General of the Global Shippers Forum, slammed ocean carriers in recent remarks at an industry event. "The liner shipping industry must urgently address the poor quality of service afforded to shippers since the consolidation of the world's top 20 lines into super alliances," Welsh said.

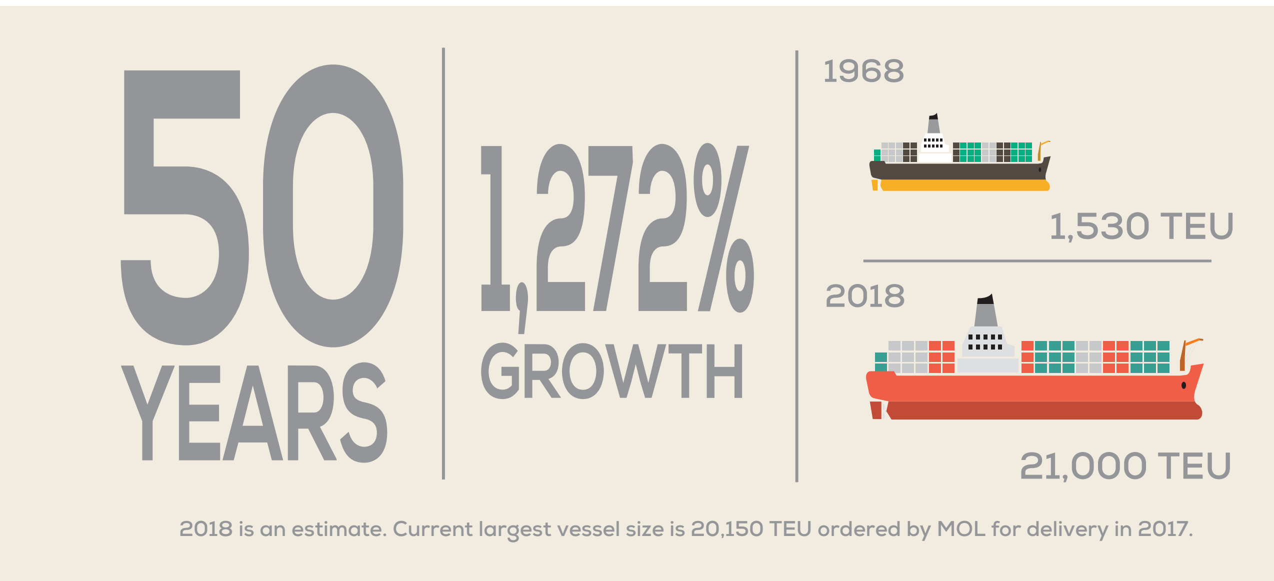
Welsh and Drewry, the London-based shipping consultant, have also pointedly questioned the benefits of massive new container ships entering the global fleet.

"It has become a battle of survival with recent rate levels at historic lows and most ocean carriers hemorrhaging," says Cas Pouderoyen, Agility Senior Vice President of Global Ocean Freight. "The majority of the carriers have already sold off most of their assets, including vessels, container fleets, logistics divisions, and marine terminals. Now they are desperately waiting for the cycle to turn up before the lights are turned off. The carriers have already taken the gains they can from larger vessels, carrier alliances, low bunker costs, and M&A activities, and the race to the bottom has proven to be futile for nearly every carrier." ▶



The ocean shipping industry is prone to boom-bust cycles and accustomed to periods when capacity and demand are dramatically out of balance. This time though, the industry could be in for an extended downturn.

One reason is that big ships – those able to carry more than 18,000 TEUs – are coming on line faster than the market can absorb them. Through 2019, carriers will take delivery of 74 more of the 18,000-TEU vessels – and 202 ships with capacity of 10,000 TEUs or more, according to Alphaliner, a leading research firm.



The bigger vessels boast lower operating costs on a TEU-per-mile basis. In theory, they lower a carrier's overall costs for crew, fuel, demurrage (charges for exceeding agreed-upon loading, unloading and sailing times), vessel insurance, servicing and ship maintenance. At least some of the savings are passed on to customers, especially when capacity utilization rates are down.

Global business conditions make it hard to justify the addition of so many huge vessels. In 2015, growth in imports and exports trailed the meager expansion in overall economic growth, the third consecutive year that trade growth trailed global economic gains. Alix Partners, a global business advisory firm, says global container fleet capacity is expected to grow 4.6% in 2016 and 4.7% in 2017. Those are the slowest rates in 25 years but still about twice the rate of demand for container space.

Most of the mega-ships now in operation are sailing from the Far East to Europe, where ports have the infrastructure to handle them. Even though the Panama Canal has been expanded it is only able to transit vessels up to 13,000 TEUs.

Few U.S. ports can handle the largest ships. "The average vessel size for services in the transpacific trade is currently around 6,700 TEUs," BlueWater Reporting research analyst Ben Meyer wrote recently in *American Shipper*.

Late in 2015, the *CMA CGM Benjamin Franklin*, an 18,000-TEU mega-ship, made test stops at the California ports of Oakland and Los Angeles. Cargo handlers, truckers and railroads got advance notice so they could coordinate with the ports and gear up to handle the surge. The tests went well by most accounts, but skeptics point out that both ports would struggle to handle regular calls from ships that large.

On the U.S. East Coast, only Miami, Norfolk and Baltimore can handle mega-vessels. New York/New Jersey, Jacksonville, Savannah and Charleston are in the midst of making changes that will enable bigger ships to call.

The glut of capacity and record-low freight rates have put the industry in a tailspin, forcing carriers to lower their rates to boost loads when utilization falls below 85%. Low fuel costs have been their only bright spot. "But who's at fault?" asks Christopher Gillis, Editor of *American Shipper*. "The finger should be pointed squarely at the carriers themselves, who made the decision to build these gigantic

ships in the face of a slow-to-cure global recession. The carriers created their own mess."

Port Chaos

To make ready for the mega-vessels, ports, terminal operators and local governments are forced to invest heavily. Dredging and deepening berths to accommodate deeper drafts. Buying new, larger cranes and other equipment to move containers. Lengthening quays, expanding terminal buildings, adding yard space and larger road and rail connection areas. Raising bridges because of the mega-vessels' increased "air draft" or height above the water line.

"Consumers will continue to foot the bill for some of the necessary port improvement projects, even if they don't actually reap any of the benefits directly," Meyer writes in *American Shipper*.

Carriers aren't the only ones consolidating. Big ships require port investment that few smaller terminal operators can afford. As a result, carrier consolidation has been paralleled by consolidation among container-terminal operators, putting more power in the hands of giant operators such as DP World, PSA International and APM Terminals. At the same time, Triton Container International and TAL International Group said they would merge to become the world's largest container-leasing company with control of roughly 25% of all leased shipping containers.

Ports perform better when cargo volumes flow in a predictable, even pattern, but that is seldom the case. ▶

Automation to relieve bottlenecks

With ever-larger vessels, there is an intense focus on port automation and innovation. Southern California ports, noted for their congestion, have experimented with a number of tools and techniques to speed cargo movement. Among them:

- Using ship manifests to forecast arrivals on their websites so that truckers can more precisely plan pickups and figure out the most efficient exit routes.
- Buying large automated cargo handling machines that are operated remotely or are programmed rather than requiring human crane operators.
- Opening offsite chassis inspection and storage yards to avoid bottlenecks close to port, where chassis rental and inspection lots traditionally have been located.
- Identifying problems by tracking how long each truck has been on site and where it slowed. "At Ports America's terminal in Long Beach, managers can pull up live camera feeds of the truck lines on their smartphones, and they receive hourly reports via email identifying which trucks need to be prioritized," *The Wall Street Journal* wrote recently.
- Requiring truckers to make appointments to pick up containers, so their boxes can be pulled from stacks and ready to load at the appointed time.
- Cutting wait times through the use of "peel-off" techniques that stack large importers' containers together for quick loading.

Freight forwarders have grown used to seeing carriers push through General Rate Increases, then back off of increased rates when volumes can't support them. The forwarders rush to book in advance of announced rate hikes, then hold back cargo after increases go through. In addition, shipments tend to be light in the first half of the month and heavy in the second half as sales people push to meet monthly targets.

Growing Risk

With the expansion and upgrade of terminals, ports and related infrastructure has come the inevitable: heavier concentrations of landside freight. Greater concentrations of freight in turn have dramatically increased risk, as demonstrated by the immense August 2015 explosion at China's Tianjin port.

The blast killed more than 170 people and resulted in more than $1 billion in losses and damage. It also sent shock waves through the global supply chain, crippling companies across industry sectors that source goods in China.

Zurich Insurance Group, Switzerland's largest insurer, suffered $275 million in Tianjin-related losses, forcing it to abandon a planned acquisition of RSA Insurance. In the aftermath of the blast, Zurich discovered that it lacked the knowledge and transparency to understand the various risks that its different units had taken on at the port. Tom De Swaan, then-acting CEO for Zurich Insurance Group, later said: "There was an accumulation of risk there, which was not sufficiently detected."

Industry Consolidation

At the start of 2016, 16 of the top 20 global carriers were members of four major alliances: 2M, G6, CKYHE and Ocean 3.

Earlier this year, Cosco Group and China Shipping Group merged to form China Cosco Shipping Group, a behemoth that supplants Denmark's A.P. Moller Maersk as the world's largest shipping company, as measured by ship value. More deals appear to be in the works, despite a recent warning in a United Nations report that shipping industry consolidation is eliminating competition in smaller countries.

Industry experts say carrier consolidation through larger alliances, mergers and acquisitions is inevitable and overdue.

CONSOLIDATION

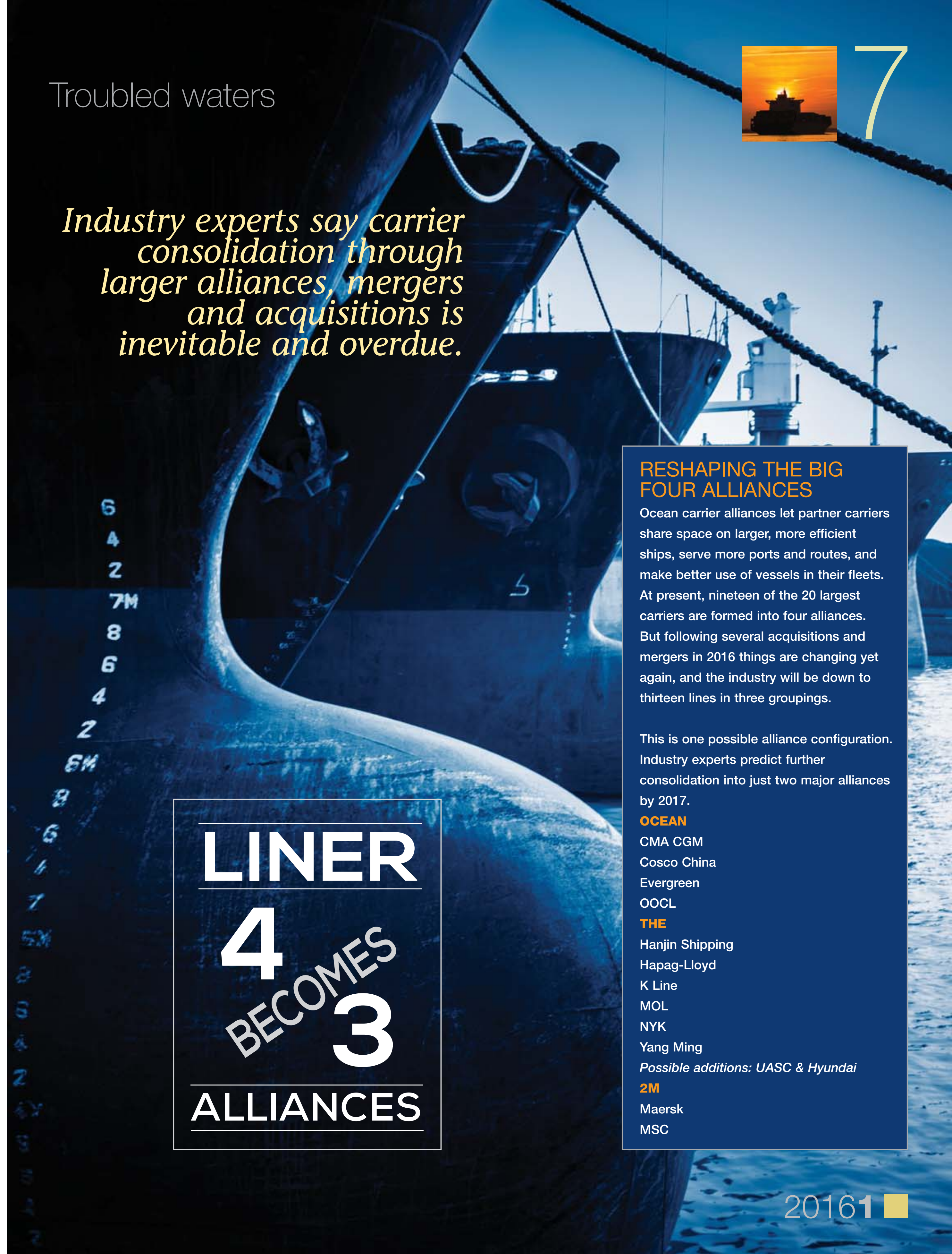
Consolidation is the name of the game, not only among shipping lines but also ports and equipment providers. DP World, PSA, and APM are becoming ever more dominant as port operators, while Triton and TAL plan to merge to become the world's largest container-leasing company with 25% of the market.

Since the global recession of 2007-2009, ocean carriers have struggled to cope with the glut in capacity. Most have tinkered with operations to make the most efficient use of their fleets – slow steaming, vessel idling, organizational cost-cutting, and information technology (IT) modernization, says Alix Partners. "Although those initiatives have provided some tangible benefits, the carrier community may finally be coming to grips with the need for significant industry consolidation."

Many in the industry are squeezed by falling revenues, shrinking profit margins and heavy debt. Says Alix Partners: "Fewer competitors controlling more vessels should lead to more effective management of existing capacity and future vessel orders that would be more in line with demand forecasts."

For customers, carrier alliances are often easier to navigate than acquisitions, which can disrupt operations for years. "Post-merger integration is no small task, because carriers tend to have customer strategies, IT systems, operational alliance partnerships, vessel fleets, back-office investments, and corporate cultures that vastly differ from one another," says Alix Partners.

Industry experts have for some time ▶



Industry experts say carrier consolidation through larger alliances, mergers and acquisitions is inevitable and overdue.

LINER 4 BECOMES 3 ALLIANCES

RESHAPING THE BIG FOUR ALLIANCES

Ocean carrier alliances let partner carriers share space on larger, more efficient ships, serve more ports and routes, and make better use of vessels in their fleets. At present, nineteen of the 20 largest carriers are formed into four alliances. But following several acquisitions and mergers in 2016 things are changing yet again, and the industry will be down to thirteen lines in three groupings.

This is one possible alliance configuration. Industry experts predict further consolidation into just two major alliances by 2017.

OCEAN
CMA CGM
Cosco China
Evergreen
OOCL

THE
Hanjin Shipping
Hapag-Lloyd
K Line
MOL
NYK
Yang Ming
Possible additions: UASC & Hyundai

2M
Maersk
MSC

US west coast ports are ill equipped to handle the new mega-ships. Average vessel size for services on the transpacific trade is around 6,700 TEU, barely one-third the capacity of the new monsters.

been predicting a much needed shakeout among the big four alliances and this is now happening. "A serious debate is needed to investigate whether mega-alliances deliver real competition to the marketplace, or if shippers and the containership industry as a whole would be better served by fewer lines competing head-on," says Welsh of the Global Shippers Forum, a leading trade association for the shipping industry.

Lying at Anchor

Unable to spur demand, some carriers have taken desperate measures to constrain capacity by idling ships. In late 2015, carriers began looking harder at leaving ships in anchorage as freight rates along some lanes out of Asia fell below $300-per-container, barely covering fuel costs. Dry bulk vessels – used to transport iron ore, cement, coal, steel, grain and other commodities – are also being idled or scrapped in growing numbers. Dry bulk carriers complain that "zombie ships" – vessels moving loads at a loss – are operating only so their owners can pay off loans.

Scrapping is an option for container ships too, but the plunge in steel prices has made it less attractive for carriers. The vessels they are demolishing tend to be older, smaller ships so there is little impact on overall capacity.

> *Fewer competitors controlling more vessels should lead to more effective management of existing capacity and future vessel orders.*

"Larger vessels and alliances were introduced to cut operating cost-per-TEU, and low operating costs are always critical in a commodity business," says Agility's Pouderoyen. "You can't blame the carriers for going this route as it is simply a matter of survival of the fittest. Carriers with no financial resources are an endangered species at the moment."

Container weight rule vexes shipping industry

Starting July 1, 2016, shippers around the world were required to verify the weight of containers prior to the boxes being loaded onto ships. The rule is an amendment to the existing Safety of Life at Sea (SOLAS) convention and was ratified by the International Maritime Organization, an arm of the United Nations.

What is the Variable Gross Mass amendment?
It's the rule requiring shippers to verify the weight of their containers before loading. They can weigh loaded containers or weigh the contents – cargo and packing materials – then add that total to the weight of the empty container.

What's the point of the rule? To improve safety aboard container ships through properly balanced loads. Imbalances can cause the collapse of containers, damage ships, even cause vessels to capsize. Containers without verified weight documentation are to be denied loading after July 1.

How was this handled before the new requirement? Shippers were only required to estimate the weight of the contents of their containers. They didn't provide a total weight and didn't include the weight of packaging materials, pallets and other materials in their estimates. Misreporting and abuse were frequent.

> Imbalances can cause the collapse of containers, damage ships, even cause vessels to capsize.

Why the confusion? First, there's a practical problem – not enough scales, weigh stations and facilities near ports or at terminals to do the job and keep ocean freight moving. There's also a timing question. How far in advance must a shipper submit data – by email, online portal or EDI – to ensure loading? The rule says only "sufficiently in advance." Another issue is whether shippers will be required to generate separate weight-verification documents or can simply add the verified weight on an existing document such as a bill of lading. Some shippers say they won't use ports that require weight verification at the gate. That suggests they seek ports that have their own scales and allow shippers to submit documentation close to loading times.

Anything else? Nobody wants to pay for weight verification and extra documentation. Carriers and ports resist the notion they should pay. Shippers will want consolidators and forwarders to absorb the cost. Consolidators and forwarders will want to charge VGM fees. It's also unclear what happens if there are violations. Enforcement, penalties and liability for all the various parties – carriers, shippers, forwarders, Non-Vessel Operators, consolidators, weigh stations, port operators, terminals – is murky at best.

For more information about the new VGM requirements, visit www.agility.com/solas-vgm

Reality check

THE VOLATILITY FACED BY THE SHIPPING INDUSTRY

Q&A with Cas Pouderoyen

Cas Pouderoyen is Senior Vice President of Global Ocean Freight at Agility and one of the logistics industry's leading experts on ocean shipping. He spoke to *Tradelanes* about the volatility faced by shippers, carriers, forwarders, ports and terminal operators.

Q: What's happening to importers and exporters as carriers consolidate and vessels are upsized?
They've got fewer choices – fewer carriers offering service along the same routes, less competition and the potential at some point for higher prices. Up until now, they've benefitted at the expense of carriers in terms of rates. But as shippers, it's time to recognize that there is only so much blood you can squeeze from the proverbial stone. Now you have to weigh the risks of moving cargo with carriers that might not be around much longer. The impact of dealing with arrested vessels, in terms of delays and extra expenses that could have a considerable impact on a customer's supply chain.

Q: Are there other risks?
We have to be cognizant that when the pendulum shifts in the carriers' favor – and it's just a matter of time – the lowest-rated cargoes will be left at the pier. These are painful lessons we learned from previous cycles. So selecting the right carrier to entrust your cargo to is something that's becoming more important today. Not every carrier will be around tomorrow or will honor its commitments. We place a lot of value on selecting the right carrier partners; we try to build win-win relationships with them over time and through all the up-and-down cycles because that helps take risk out of the equation for our customers.

Q: How has the ocean world changed for shippers over the past five years?
Carriers cut costs to survive. They centralized and automated a great deal, installing central operations centers and call centers, making more use of electronic booking technology, document release, status updates, archiving and storing. The carriers have curtailed "live" customer service, they've reduced sales forces, and this in turn has resulted in more self-service online. That's all fine when the shipments move as per plan, but difficult to manage when a client needs "exception management" through live intervention. It has opened the door even wider for full-service freight forwarder/NVOCCs (Non-Vessel Operating Common Carriers that organize shipments).

Cas Pouderoyen, Senior Vice-President of Global Ocean Freight at Agility

Q: If I'm chief supply chain officer at a company that moves goods from Asia to Europe or the United States, what am I doing to make sure I'm getting the best rates and the best service?
The best service and the lowest rates are nirvana, which is rarely achieved. You have to decide what the acceptable trade-offs are. If service is key, then your options are reduced and you will have to pay a premium for such service levels. One can still obtain below-average prices by buying smartly in terms of timing the pricing cycle – as

an example you don't negotiate during peak season — and to mitigate your risk by looking at multiple providers.

Selecting the right carrier to entrust your cargo to is something that's becoming more important today.

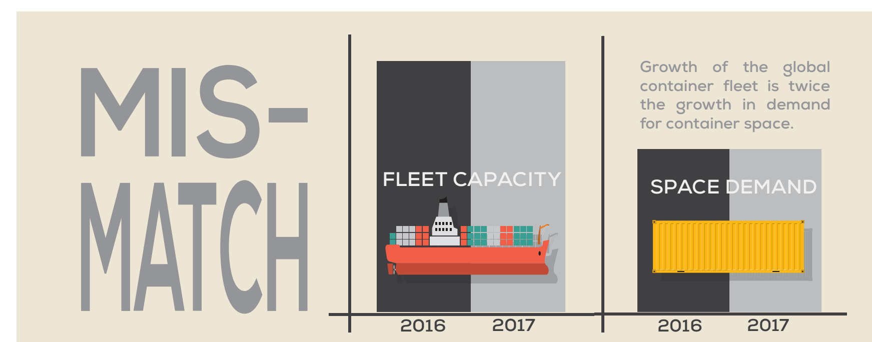
Q: Port congestion seems to be a huge issue because big ships are coming online before a lot of ports, particularly in the U.S., can handle them. What do you see?
I don't think it is an isolated U.S. issue. Most ports around the globe are not really prepared to handle those Ultra Large Container Ships in an efficient manner. Terminal operators have to invest heavily in the infrastructure. They need to uplift their cranes and design a better structure and process to support inland moves by train, truck, etc. Due to long load and unloading time – up to five days – the export documentation and cut-off dates have moved towards more or less a week prior to sailing. For customers, this is a huge challenge.

Q: How are forwarders and 3PLs helping customers deal with all the confusion – the schedule and route changes, the port congestion and other problems?
We are looking hard for alternative solutions and proactively informing customers when new challenges and trends coming up.

Q: How long do you see freight rates staying near these record lows?
Rates are already going up from their recent record lows, and the carriers have no choice to increase them if they want to stay in business.

Q: What about the idea that bigger vessels and port consolidation lead to additional risk? So much cargo is moving through or stored near fewer, bigger ports. It seems like this is getting a new look from the insurance industry and others as they reassess risk in the wake of the Tianjin, China port explosion.
Some insurance companies are placing limits on the number of containers that can be shipped on a single vessel. However, we do not see port consolidation as a trend or an issue at the moment. We do see port diversification as an important part of risk mitigation with the more sophisticated importers/exports.

Q: What's your view of the container-weighing requirements? What are you telling customers?
We explain the new SOLAS rules and requirements to clients, and we will enforce compliance. Otherwise, the containers will not be loaded aboard vessels. It will definitely cause some discomfort to certain shippers, though we expect most of the pain will be with the bulk commodities, which is not a large part of our overall business.



Container fleet capacity growth of 4.6%. Source: Alix Partners.

India to Europe

OPTIMIZED PHARMA SUPPLY CHAIN

Global pharma company consolidates and saves

India's pharmaceutical contract manufacturing sector is worth $13 billion a year and is growing at about 15% annually.

13

Life sciences companies making medicines in India need to be able to surmount significant logistics and infrastructure hurdles to be competitive. One leading pharmaceutical company worked with Agility to establish a safe, compliant supply chain that would ensure reliability, improve efficiency and lower shipping costs.

India is the world's third-largest producer of generic pharmaceuticals with industry revenues that exceed $13 billion a year and annual growth rates of about 15%. Foreign life sciences companies can choose from among 400 approved contract manufacturers (CMOs), many of them world-class operations.

Companies looking to take advantage of low-cost manufacturing in India often underestimate the time and effort it will take to navigate India's uncertain regulatory environment and move goods from manufacturer to market. ▸

Customer challenge

One global seller of generic drugs uses a network of 30 CMOs in India to fulfill demand in Europe. The company struggled to develop a reliable and compliant process for managing transport from the point of manufacture through market delivery. Looking to make a change, the company approached Agility with three specific objectives:

- Create an end-to-end, GDP-compliant (Good Distribution Practices) supply chain
- Reduce shipping costs through better order consolidation
- Improve in-country operations management

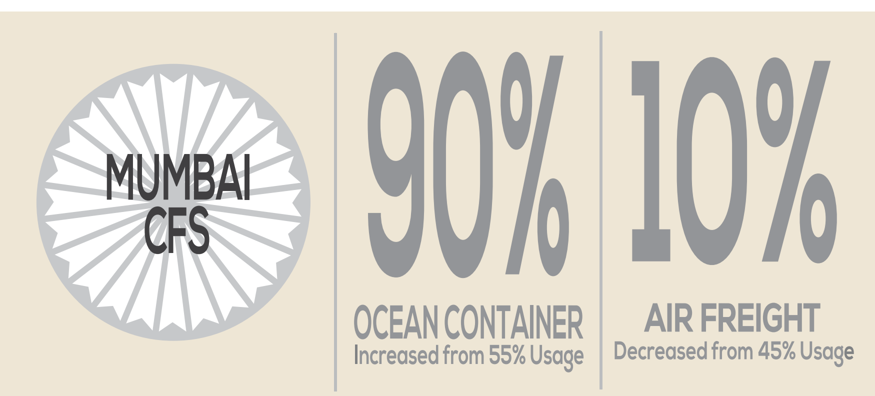
Agility worked with the company to create a one-of-a-kind consolidation center in Mumbai compliant with both GDP rules and U.S. Food and Drug Administration requirements. Key to making this facility a success was Agility's experience operating in the local market. Agility helped the customer cut through complex, often ambiguous rules governing GDP compliance.

Local knowledge

Agility's role also included hiring and training qualified workers to staff the operation. The dedicated team was able to coordinate transportation from suppliers, improving operations, cutting down on calls from supplier to the customer, and eliminating most supply disruptions.

The consolidation center – relatively small at 300 square meters – was enough to address multiple needs for the customer. Mainly, through careful planning and inbound transportation management, it allowed the customer to bring together and manage products made by its 30 different producers.

CMOs typically want to ship product as it is produced, preferring to not store finished goods or hold them to be combined with other orders. The bonded, temperature-controlled facility allowed the customer to meet GDP requirements for handling and storing pharmaceuticals.



Cutting freight costs

Agility looked at the customer's transportation costs and freight use. Air freight – up to 90% more expensive than ocean freight – had become the customer's default choice in certain cases because the customer had poor visibility into order status and delivery schedules, particularly those from small-batch producers shipping just one to five pallets at a time.

Agility's efforts to get more visibility into orders improved scheduling and allowed for regular consolidation of smaller orders into Full Container Load (FCL) shipments at the lowest ocean rates.

In addition to ensuring regulatory compliance, changes in consolidation and transportation management enabled the customer to reduce its reliance on air freight. Ocean container use – just 55% before the changes – rose to 90%.

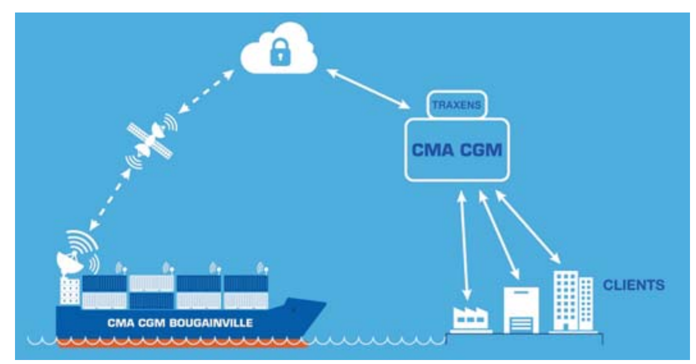
Total visibility

THE 'SMART' CONTAINER IS FINALLY HERE

Ocean importers and exporters are a big step closer to their long-sought objective of "total visibility" with the arrival of smart, connected shipping containers.

A number of companies have developed containers that use built-in relay antennas and other technology to monitor and track contents in real-time. CMA CGM, the giant French ocean carrier, is an investor in one such start-up, TRAXENS.

Last year, the CMA CGM *Bougainville*, an 18,000 TEU vessel, was equipped with shipboard systems that collect and transmit data from containers fitted with TRAXENS technology. The technology gathers data on location, temperature, humidity, vibrations, impacts, attempted tampering, customs clearance status and other factors.



Smart-box technology first entered wide use by militaries and governments intent on monitoring shipments of sensitive cargo. In commercial shipping, the technology eventually could play a huge role in the shipment of refrigerated cargo and perishables by enabling users to control and adjust temperature and humidity levels inside of containers while in transit.

There are landside benefits as well. On arrival, customs officials can clear cargo faster if they've got an audit trail created by the smart container. Shippers sharing the data with partners – trucking companies, for instance – can load and exit the port faster and with less waiting time.

In some cases, insurers are willing to offer rebates and lower rates to shippers and carriers using smart containers. Insurers also have indicated that the technology might allow them to offer insurance on cargo that wasn't traditionally insurable.

Use of connected containers could ultimately help shippers reduce transit times and cut losses from damage and spoilage, says Cas Pouderoyen, Agility Senior Vice President for Ocean Product.

"What's unclear is how many customers are willing to pay for enhanced service and how quickly smart boxes will become the industry standard. Carriers are under severe financial strain right now, so they aren't likely to invest in shipboard technology unless they feel they can recoup their cost or feel that failure to invest means they'll lose market share," Pouderoyen says.

Canals expand

SHIPPERS CONTINUE TO LOOK AT ALTERNATIVES

14,000 TEU vessels can now move through the canals

ABOVE: Now that's what you call a tight fit! A Panamax class vessel just scrapes through the Gatun lock prior to construction of the new, wider locks.
RIGHT: Panamà, Gatun – June, 2015: work in progress for the new locks. Exactly 100 years after the opening of Panama Canal in 1916 the new expansion project opened for business in June 2016 enabling passage of containerships with almost three times the capacity of previous vessels through the canal.

With the growth in vessel size, the world's traditional shipping bottlenecks – the Suez Canal and Panama Canal – have undergone major expansion and upgrades so that more big ships can ply routes that have faced constraints.

Traffic historically backed up outside the Suez because it wasn't wide enough for two broad-beamed ships to squeeze past one another. The Egyptian government is making changes intended to increase traffic by accommodating larger vessels, reducing wait times and speeding up the time it takes to transit the canal.

The locks on the Panama Canal, not long or wide enough for mega-ships, have been replaced. Mega-ships recently began traversing the Panama Canal. The longest ships on the Panama Canal previously measured 965 feet. That increased to 1,200 feet with the opening of a third set of locks. At the same time, the maximum beam went from 106 feet to 160 feet, and maximum draft dropped from 42 feet to 60 feet. As a result, "Neopanamax" ships loaded with up to 14,000 TEUs are able to move through the canal.

Alternative routes

In spite of the improvements to both canals, shippers and their customers continue looking for alternatives. Earlier this year, France's CMA CGM carrier converted one of its Asia-U.S. routes to a round-the-world route that would skirt the Panama Canal and sail around the Cape of Good Hope at the southern tip of Africa to avoid the Suez. With fuel prices low, CMA CGM vessels can take the longer route at faster speeds – and avoid paying fees to transit the Suez and Panama canals.

> *"Neopanamax" ships loaded with up to 14,000 TEUs will be able to move through the canal.*

Meanwhile China is encouraging its merchant fleet to investigate routing via the Arctic, where shrinking ice coverage is opening a seaway that cuts more than 3,000 miles off the distance from Shanghai to Western Europe. Ice coverage of the Arctic is now half that of four decades ago.

Landside, the Suez faces additional competition. China-Europe freight rail service is carrying auto parts, electronics, IT components and clothing from manufacturers in China's inland provinces to Poland and Germany for onward rail and road shipment to European assembly plants and markets. The 6,800-mile trip from Chongqing to the German port of Duisburg takes 14 to 16 days, half the time of ocean freight at roughly half the price of air freight, according to the *Journal of Commerce*.

Pressure to cut emissions

50% cut targeted by year 2050

Larger, more modern and fuel-efficient ships that travel at slower speeds have helped the industry cut CO2 emissions.

The global merchant fleet consists of oil tankers, bulk carriers, general cargo ships, container ships and other vessels, which together account for 10% of CO2 emissions from transportation, according to the International Maritime Organization.

But there is pressure to do more. The International Transport Forum wants to force the industry to cut emissions 50% by 2050 and to eliminate carbon emissions entirely by 2080. It is calling for a carbon tax and rules that would be enforced by the International Maritime Organization.

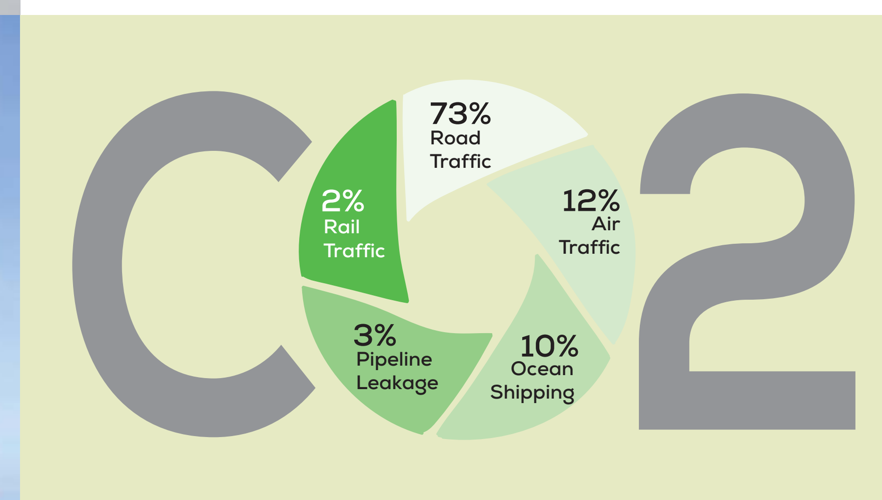
Agility is one of 43 companies – logistics providers, ocean carriers and retailers – participating in the Clean Cargo Working Group put together by Business for Social Responsibility, a global non-profit. The Clean Cargo Working Group is dedicated to improving the environmental performance of marine container transport.

The group's tools are the industry standard for measuring and reporting ocean carrier environmental performance on CO2 emissions. Emissions per container-mile were cut 29% from 2009 to 2014 and by 8.4% from 2013 to 2014, the most recent year for which the group has figures.

The group's work lets ocean customers review and compare carriers' performance, and use emissions data to make their buying decisions. Carriers can track and benchmark their performance and share it with customers.

Cas Pouderoyan, Agility's Senior Vice President for Ocean Product, has been the company point person in the working group. "The strength of the group is its makeup," he says. "When you've got carriers, forwarders and their customers involved, you can agree on realistic steps and targets, and you can improve performance across the entire freight chain."

For more information about the Clean Cargo Working Group please go to: http://www.bsr.org/en/collaboration/groups/clean-cargo-working-group



Education in Africa

FOR GIRLS AND WOMEN

Better female education has a big multiplier effect

21

Agility recently partnered with the Campaign for Female Education (Camfed) to fund the schooling of 100 female students in rural Ghana in West Africa.

Camfed is an international organization that works with rural communities in sub-Saharan Africa to address the barriers marginalized girls face getting access to education and transitioning to an independent livelihood.

Agility is building logistics infrastructure to support the growth of trade in Ghana. In many of the 100-plus countries where it operates, Agility has put health and education for girls and women at the center of its volunteerism and corporate contributions, particularly in Asia, the Middle East and Africa. By partnering with Camfed, Agility is making a powerful impact on the lives of some of the world's most disadvantaged girls and their communities.

In sub-Saharan Africa, 28 million girls are out of school, according to the Global Initiative on Out-of-School Children published by UNESCO's Institute for Statistics. In rural Ghana, Agility's support will cover the costs of tuition, uniforms, supplies and other items for girls whose families do not have the means to send them to secondary school.

"In the rural communities where we work, chronic poverty excludes many girls from education, especially at secondary level, where costs rise sharply, and distances to schools are much greater. Girls are so determined to access ▶

PHOTO: Jonathan Birch/Camfed

Camfed

Camfed is an international non-profit organization tackling poverty and inequality by helping girls go to school and succeed, and empowering young women to step up as leaders of change.

Camfed invests in girls and women in the poorest rural communities in sub-Saharan Africa, where girls face acute disadvantage, and where their education has transformative potential.

Camfed not only supports girls and young women through school, but also on to new lives as entrepreneurs and community leaders. To complete the "virtuous cycle" and create sustainable change, graduating students become CAMA alumnae, many of whom return to school to train and mentor new generations of students.

Since 1993, Camfed's innovative community-led education programs have benefitted over 3.5 million children in Zimbabwe, Zambia, Ghana, Tanzania and Malawi. In 2014, Camfed was recognized by the OECD for best practice in taking development innovation to scale.

https://camfed.org/

PHOTO: Olivier Asselin/Camfed

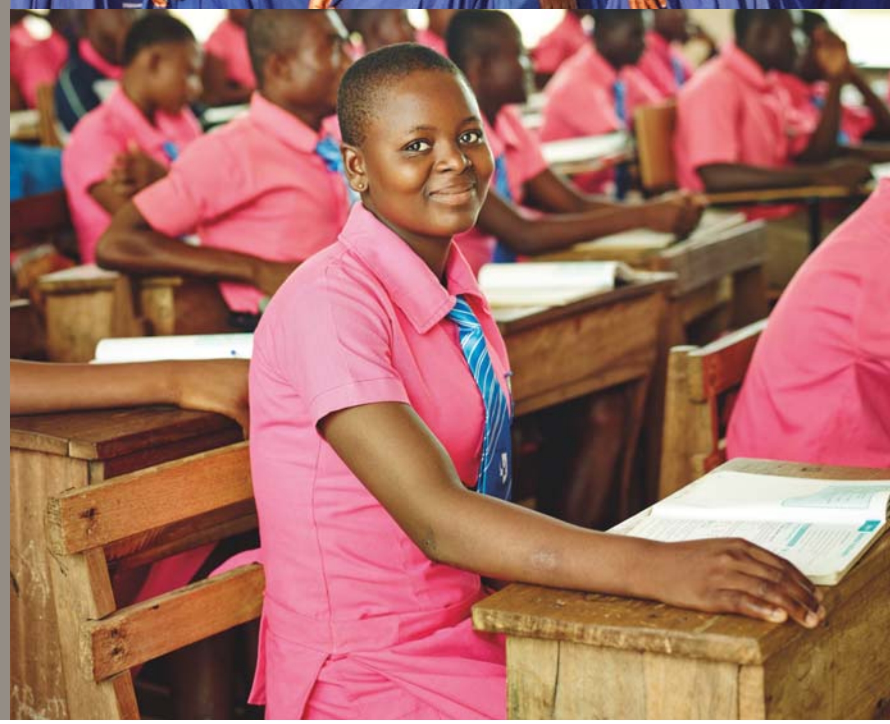


PHOTO: Mark Read/Camfed

education that they put themselves at considerable risk to raise the money, heading to towns to work as street porters or maids, vulnerable to abuse and exploitation," said Dolores Dickson, Executive Director of Camfed Ghana. "Camfed works with communities, schools, authorities and generous donor partners like Agility to rewrite the future of these girls, who then become mentors and role models for other girls."

Geoffrey White, CEO of Agility Africa, said: "Social development alongside our commercial development is important to Agility. Without it our businesses can't grow and operate as we would wish. Social inclusion is a core value for us. Education is one of the best investments we can make to alleviate poverty and create a better world. It has an incredible multiplier effect, and it provides returns for generations."

Education is one of the best investments we can make to alleviate poverty and create a better world.

Research shows that better-educated women tend to be healthier, take part in the formal labor market and earn more. Data also indicate that the children of educated women benefit by receiving better health care and education.

In addition to its support of basic and secondary education, Agility is establishing training programs to groom logistics professionals and skilled warehouse and distribution specialists in Africa.

IN SUB-SAHARAN AFRICA
28 MILION
GIRLS ARE OUT OF SCHOOL

EDUCATION CHANGES EVERTHING
25% GREATER EARNINGS FOR EACH YEAR SPENT IN SECONDARY SCHOOL
90% OF INCOME REINVESTED IN THE FAMILY
3X LESS LIKELY TO BECOME HIV-POSITIVE

SOURCE: Camfed.org

Camfed works with communities, schools, authorities and generous donor partners like Agility to rewrite the future of these girls, who then become mentors and role models for other girls.

Locations

Global Integrated Logistics

International HQ
Baar, Switzerland
Tel: +41 41 766 5270
gil@agility.com

Americas
Irvine, California, US
Tel: +1 714 617 6300

Asia Pacific
Singapore
Tel: +65 6463 9868

Europe
Basel, Switzerland
Tel: +41 61 316 5555

Middle East & Africa
Dubai, United Arab Emirates
Tel: +971 4 813 1222

Chemical Logistics
Liverpool, UK
Tel: +44 151 494 5900

Fairs & Events
Singapore
Tel +65 6463 9868

Project Logistics
Houston, Texas, US
Tel: +1 713 452 3500

Infrastructure Companies

Defense & Government Services
Alexandria, Virginia, US
Tel: +1 703 417 6000
dgs@agility.com

Real Estate
Sulabiya, Kuwait
Tel: +965 1 809 222
red@agility.com

National Aviation Services
Farwaniya, Kuwait
Tel: +965 1 842 842
info@nascorporate.com

Inspection & Control Services, Ltd
Sulabiya, Kuwait
Tel: +965 2498 1256
BKhoury@agility.com

Metal and Recycling Company
Amghara, Kuwait
Tel: +965 2457 7773/4
mrc@mrc.com.kw

GCC Services
Dubai, United Arab Emirates
Tel: +971 4 455 2600
info@gcckwt.com

United Projects for Aviation Services Company (UPAC)
Kuwait City, Kuwait
Tel: +965 1 833338
upac@upac.com.kw

Other Enquiries

Career Opportunities
careers@agility.com

Media
press@agility.com

Investors
investor@agility.com

Tradelanes is the magazine of Agility,
published by Agility Holdings Inc,
240 Commerce, Irvine, California, 92602, US.

Editor in Chief Jim Cox
Managing Editor Nita Bhatkar
Consultant Editor Richard Pavitt
Design Paul Cooper Design
Produced by Nugene Ltd
and printed in England.

Editorial Coordinators
Global Integrated Logistics (GIL)
Toby Edwards tedwards@agility.com

Americas
Josh Rogers jorogers@agility.com

Asia Pacific
Toby Edwards tedwards@agility.com

Europe
Vanessa Dethorey vdethorey@agility.com

Middle East & Africa
James Gildea jgildea@agility.com

Chemicals
Mark Ridge mridge@agility.com

Fairs & Events
Jennifer Lim jlim@agility.com

Project Logistics
Amy Grizzaffi agrizzaffi@agility.com

Defense & Government Services
Jim Cox jcox@agility.com
Sarah Benrazek sbenrazek@agility.com

Infrastructure
Nita Bhatkar nbhatkar@agility.com
Michel Karam mkaram@agility.com

Corporate Marketing
Mariam Al Foudery malfoudery@agility.com
Nita Bhatkar nbhatkar@agility.com
Deena Al-Shatti dalshatti@agility.com

© 2016 Agility Holdings Inc. All rights reserved.

Copyright of ***Tradelanes***, and the ***Agility*** trademark are owned by Agility.
Other trademarks reproduced in this magazine are the property of their respective owners.

For more information about Agility, visit www.agility.com
Twitter: https://twitter.com/Agility
LinkedIn: http://www.linkedin.com/company/agility
YouTube: http://www.youtube.com/user/agilitycorp

About Agility

Agility brings efficiency to supply chains in some of the globe's most challenging environments, offering unmatched personal service, a global footprint and customized capabilities in developed and developing economies alike. Agility is one of the world's leading providers of integrated logistics. It is a publicly traded company with $4.3 billion in revenue and more than 22,000 employees in 500 offices across 100 countries.

Agility's core commercial business, Global Integrated Logistics (GIL), provides supply chain solutions to meet traditional and complex customer needs. GIL offers air, ocean and road freight forwarding, warehousing, distribution, and specialized services in project logistics, fairs and events, and chemicals. Agility's Infrastructure group of companies manages industrial real estate and offers logistics-related services, including e-government customs optimization and consulting, waste management and recycling, aviation and ground-handling services, support to governments and ministries of defense, remote infrastructure and life support.