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Balancing the Imbalances in Container Shipping

The financial crisis contributed to a significant imbalance between supply and demand in the container shipping industry. Now, burdened by falling freight rates and profit margins, carriers are looking for answers.

The outlook for world trade and container shipping volumes is surprisingly positive. Despite economic downturns and uncertainty, world trade value is expected to grow by 19 percent from 2011 to 2014, which will result in an almost 90 percent increase since 2005 (see figure 1). Recent forecasts of container shipping volumes show similarly attractive growth rates taking place in the next three to five years.

Looking ahead to 2014, the market is expected to be served by a carrier fleet with an approximate capacity of 19.3 million twenty-foot equivalent units (TEU), which is around 24 percent above today's fleet size. From 2005 to 2014, the global container vessel fleet will have expanded disproportionally to trade value growth by as much as 144 percent.

This imbalance between trade and fleet capacity is partially absorbed by a further increase in the share of containerized freight. Yet overcapacity is, to a large extent, structurally imbedded, increasing, and likely to last for a long time.

From our work in this industry, we sought to answer several important questions: Is the industry behaving irrationally? Or are the stronger carriers crowding out weaker carriers by intentionally flooding the market with additional capacity? Is the growth in capacity due to the increased marginal return carriers secure with new technology? Are carriers that did not invest rendered noncompetitive in the long run? No matter which view one takes on the causes, the effects of the supply-demand imbalance will continue to have a substantial impact on the market and the industry on a whole.

Figure 1

World trade is expected to grow almost 90 percent between 2005 and 2014

Note: Figures for 2011 through 2014 are estimates.

Sources: World Trade Organization, International Monetary Fund (2010), UNCTAD Review of Maritime Transport, MDS Transmodal; A.T. Kearney analysis

Three Strategies to Prepare for the Future

It is becoming more important for carriers to have clear strategies and distinct market positions. While rationalization and cost-cutting measures are appropriate answers to volatile and fiercely competitive markets, such measures fail to address fundamental structural market challenges, which are likely to continue in the foreseeable future (see sidebar: Rapid, Dramatic Market Changes Pose Challenges to Carriers on page 5).

The ability to offer the lowest rates and still make a profit is crucial for surviving the rate battle.

Therefore, leading carriers such as Maersk Line, MSC, and CMA CGM appear to follow the strategy of dominating the market through scale. They may well succeed, as large vessels provide major economic advantages in lower fuel, capital, and manpower costs per container carried. However, not all carriers need to follow such strategies to succeed. Large vessels have to operate between a limited number of ports in order to achieve high utilization and efficient turnaround. They need to be supported by a dense network of feeder services that require multiple handlings of containers. Nimble carriers operating smaller vessels may be able to achieve lower costs on a point-to-point basis than the "market leaders" by calling directly at ports not served by the mega-ships and thus eliminating extra handling of containers.

The choice of strategy is not based solely on scale; every service provider must have an innovative market differentiator. In the container shipping industry, a differentiator can be anything from size, product, lanes, and positioning in the logistics chain (service offerings) to transportation hardware, client interaction, and pricing. And the strategy of choice should also reflect the volatility in trade markets.[1]

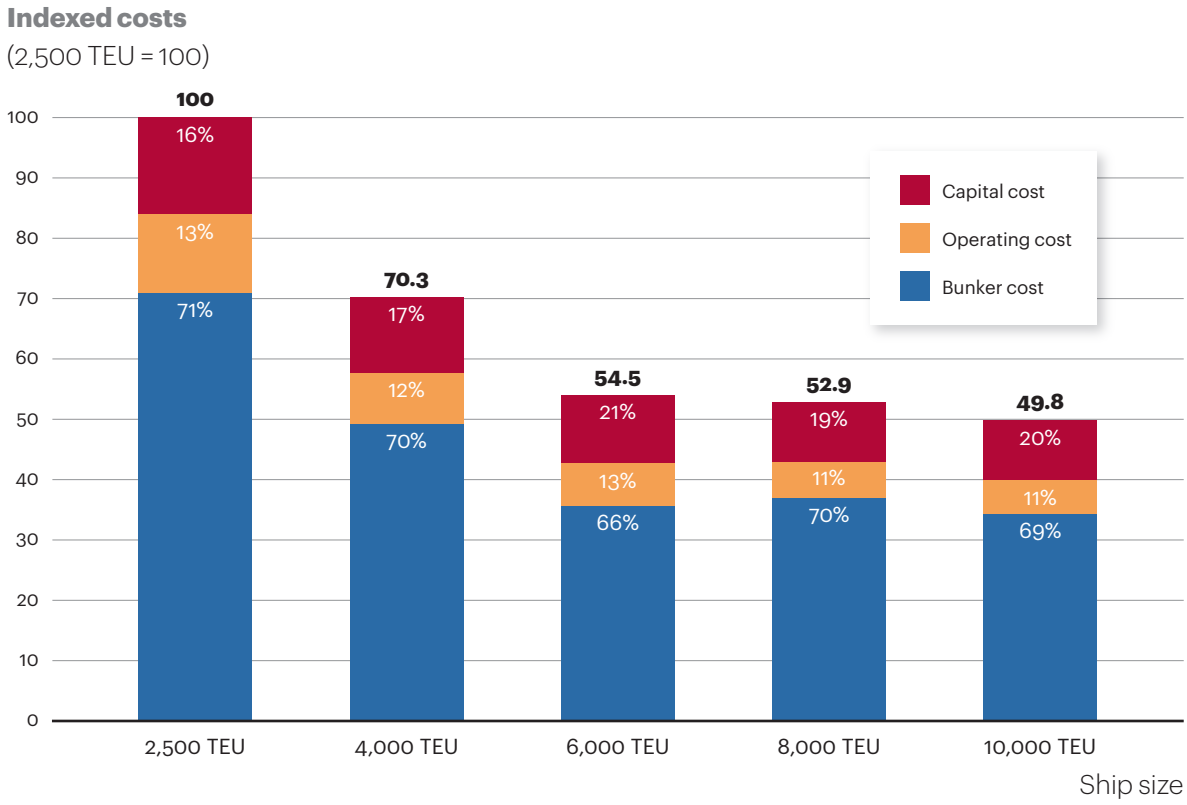
To take advantage of the market's long-term potential, the strongest carriers will have five-year strategies in place. The following are offered as guidelines:

1. Develop a Strategy for Market Conditions

It might seem irrational to order and deploy new vessels in a market with severe overcapacity, but there is sound reasoning behind Maersk Line's decision last year to award Daewoo Shipbuilding a $3.8 billion contract for 20 Triple-E (18,000 TEU) vessels, which Maersk claims are the world's largest and most efficient container vessels. To keep pace, other carriers are similarly ordering and deploying new, ever-larger vessels. When appropriately utilized, larger vessels are more cost efficient and better suited to the current market conditions. On average, slot costs decrease by as much as 50 percent from a 2,500 TEU to a 10,000 TEU vessel—and the cost advantages of Triple-E vessels are even larger (see figure 2 on page 4).

[1] See A.T. Kearney Global Business Policy Council study, "The Global Services Location Index"

Figure 2
Bigger ships result in lower costs in many categories



Sources: Drewry reports, interviews with shipping executives

In a very competitive market such as container shipping, the ability to offer the lowest rates and still make a profit (or worst case, making smaller losses than competitors on key strategic trades) is crucial for surviving the rate battle. Indeed, offering very low rates over a short period may be necessary to defend or win market share, secure enough volume to achieve decent capacity usage, and squeeze out the competition. Deploying more modern and larger vessels is a powerful cost lever for the following reasons:

- **Cost effectiveness.** As discussed, larger vessels are more efficient when used at full capacity. A rule of thumb for older vessels is that a doubling of vessel size results in a 30 to 40 percent decrease in bunker costs per slot. For newer vessels, this factor is around 20 percent.
- **Slow steaming.** A measure spawned from the financial crisis, slow steaming has a significant impact on slot costs; it is also a fairly simple way to adjust network capacity in the short term. The technology of new vessels supports slow steaming better than that of older vessels.
- **Smaller crews.** Modern vessels require fewer people to operate them, and on a big vessel, the lower crew costs can be distributed over a larger volume. For example, modern 11,000-plus TEU vessels have twice the loading capacity of Panamax vessels but need a crew of only 13 instead of 23.
- **Lower capital costs.** The new-build cost per slot of larger vessels is less than for smaller vessels. Therefore, capital costs per slot are lower for larger vessels.

Rapid, Dramatic Market Changes Pose Challenges to Carriers

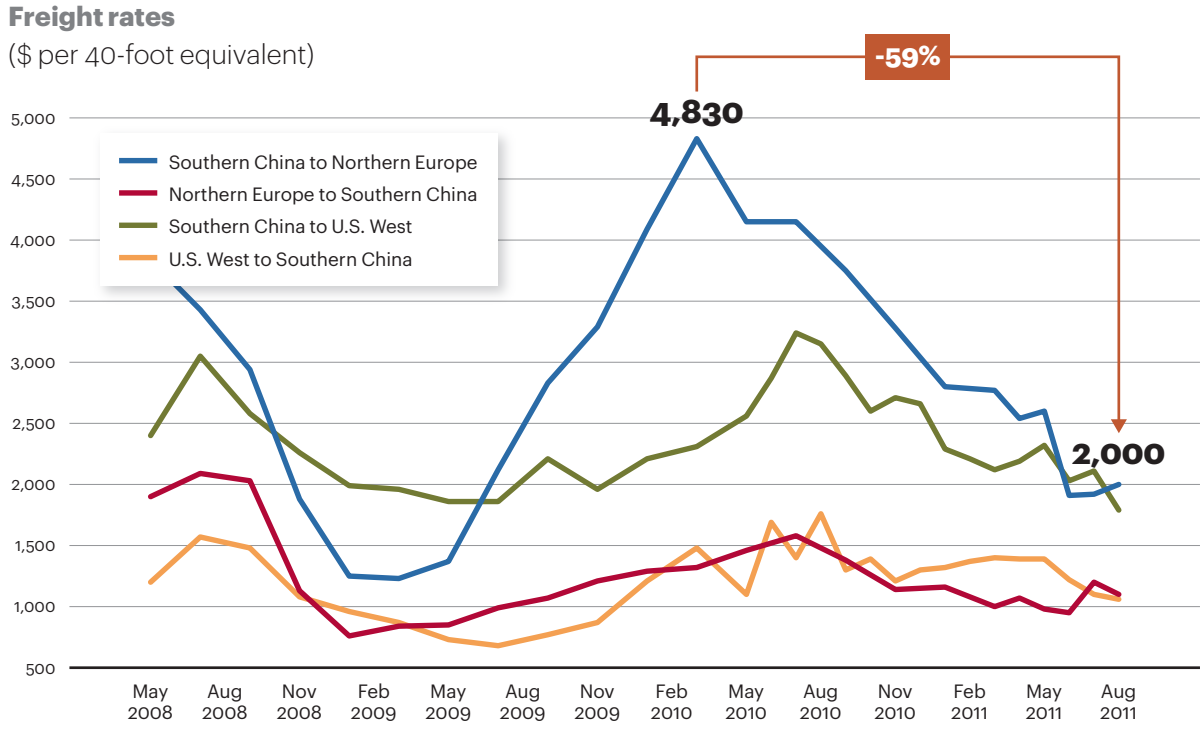
Two years ago, the average cost of shipping a 40-foot container from Hong Kong to Hamburg was $4,830. In August 2011, rates were less than half that (see figure A). Although the supply and demand imbalance has a lot to do with this drop in shipping costs, it is only part of the story. Freight and charter rates are also forced under water by cutthroat competition for volumes on key trading routes, and they are negatively influenced by continued high uncertainty in the development of the global economy.

In the commodity-like container shipping business, price remains a key differentiator on which industry leaders intensively compete. Particularly for Asian-European trade, big players drive down their slot costs to such an extent that they squeeze out smaller players to the smaller-volume north-south trades, thereby triggering a cascade effect of rate reductions.

Volatile financial markets, continued turbulence in the Euro zone, and stagnating growth in the United States are also contributing factors. Fearing a new recession, industry order volumes that drive import and export are expected to shrink, and investments will likely be postponed. Since July 2010, shipping executives' confidence about their market has consistently been heading downward, recently hitting a 3½-year low, according to the Moore Stephens Shipping Confidence Survey. Based on the indicative power of this index, the rate downfall is not likely to end within the next month. At the same time, carrier costs have risen substantially. Because of increasing oil prices, bunker prices, which are the main driver of voyage-related costs, have increased by 38 percent since January 2011 alone (see figure B on page 6). The first eight months of 2011 brought an increase from $497 to $687 per ton of intermediate fuel oil 380. Undoubtedly, carriers now face severe challenges with the combination of falling freight rates, rising costs, uncertain markets, and more intense consolidation pressure.

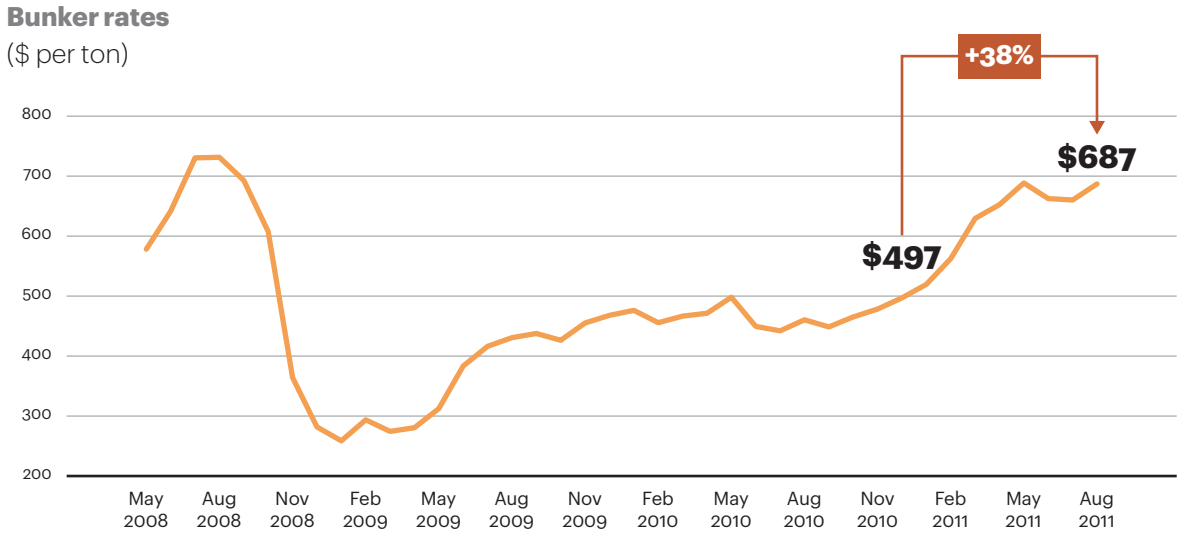
Figure A

Sidebar figure A: Freight rates fell 59 percent in 18 months



Sources: Drewry reports; A.T. Kearney analysis

Figure B
Bunker rates rose 38 percent in eight months



Sources: Bunkerworld; A.T. Kearney analysis

Having a modern fleet will be especially important for the large vessel segment, where significant new and modern capacity is being added. This accelerated development is likely to have severe consequences for carriers with large but older and less efficient vessels that become obsolete because they cannot be easily deployed in, for example, regional trades and cannot compete on long hauls.

Fleet composition is not only about deploying the best-suited vessels but also about having the optimal mix of owned and time-chartered (T/C) vessels. The advantages of time-chartered vessels are flexibility and the fact that carriers can sometimes secure some very attractive deals. For example, when the only other alternative for a vessel owner is to lay up the vessel to wait for better times, very low T/C rates can be a more attractive option.

However, there is also significant shipyard overcapacity, and new building prices are very low. So, for financially solid carriers that have easy access to capital, buying new modern vessels at almost bargain prices might represent a more attractive opportunity than entering into T/C agreements for older vessels. The flexibility to choose between owning and chartering gives these carriers a clear competitive advantage under current market conditions.

2. Design the Best Network

The attractiveness of different trade routes varies. The very competitive Asia to Europe head-haul lane offers high volumes, but the backhaul direction has much lower vessel utilization, typically around 50 to 70 percent.[2] Obviously, achieving the lowest possible slot costs is vital to remain competitive in this major long-haul trade. In contrast, the tonnage-wise smaller north-south routes experience less intense competition and are, on average, served by smaller vessels.

[2] In contrast to previous years, utilization was well above 80 percent on backhaul routes at the beginning of 2011 as demand for imports in Asia increased, but margins remained negative for service providers. The increased demand may offset lower revenues on the head-haul side.

While global carriers have to offer their own or shared services on all major trade lanes, smaller players and those that mainly focus on certain areas, such as feeder business, should consider their choices wisely. The message to carriers is simple but effective: Optimize your network to increase revenues, reduce operating costs, and maximize returns. Although this sounds obvious, network design often lacks analytical rigor, and as a consequence, the resulting commercial decisions risk being flawed. In addition, it often takes a long time to realize that a specific service is not profitable and to correct a wrong decision. Naturally, routes are not intentionally served unprofitably, but it can have a negative impact on the market and thus affect all participants.

The most successful carriers will be those that are **efficient, flexible, and the easiest for customers to do business with.**

Strategic and tactical network optimization requires access to accurate key data across several functions, and it requires transparent, well-designed information technology systems to deliver this data. Areas that should be considered as part of a network optimization are as follows:

- **Characteristics and outlook for trades served.** Evaluate all aspects, including profitability, competition, and rate development
- **Degree of flexibility within the network.** Gauge all matters of flexibility. For example, slow steaming might provide flexibility to adjust capacity, but it also requires a high degree of network flexibility
- **Potential to optimize port stays.** Consider various factors, including port performance and the frequency with which port stays are serviced
- **Quality of vessel stowage.** Look for potential improvement opportunities
- **Pricing optimization.** Examine ways to cut costs or improve yield management
- **Balance head- and backhaul cargo flow.** Plug performance gaps

Optimizing a carrier's fleet composition and designing the best possible network are closely related decisions that should not be considered in isolation.

3. Grow the Business

The size of a carrier matters. First, large carriers are less vulnerable to regional downturns because they can more easily adjust their network and capacity incrementally. Second, they have an easier time financing strategic investments (although this is not universally true). Third, and most important, large carriers with global networks can offer their customers global services and more choices to route their volumes in the most efficient ways. Overall, large carriers manage to secure more constant cargo volumes and therefore achieve higher use of their assets. At the same time, for carriers with a well-balanced portfolio based on serving multiple markets with global networks, the impact of poor returns on particular routes is softened when other markets do well.

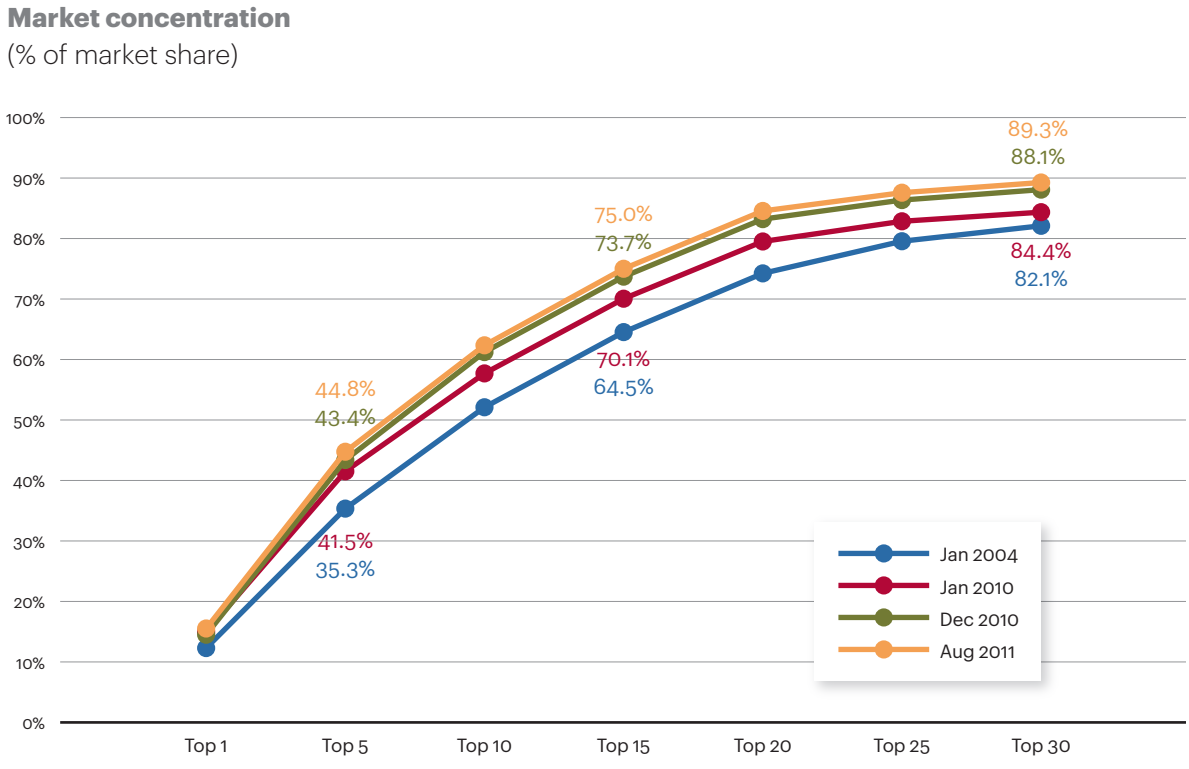
There are three ways for carriers to grow their businesses:

Organic. Most carriers attempt organic growth. In 2010, the top 10 carriers increased their capacity by 14 percent versus 8 percent for the overall market. This growth is not solely based on newly constructed fleets. Alphaliner, an independent agency that provides market data for the liner shipping industry, reports that, on average, half—51.5 percent—of the existing fleet is chartered from non-operating owners.

Although current conditions suggest a market ripe for consolidation, some stronger carriers believe the time is right to simply use the low rates and their slot cost advantage to squeeze out weaker competitors for good. The idea is not to lay up capacity to sustain declining rates, as they did a few years ago, but instead to let rates decline to a level where carriers with higher slot costs simply go out of business. In doing so, the better-positioned carriers force an adjustment of global capacity and at the same time gain market share. Maersk Line, MSC, and CMA CGM are using this approach to drive out smaller competitors on the Asia-Europe trade.

Acquisitions. Although the overall industry remains fragmented with the top five players holding 45 percent market share (up from 35 percent market share in 2004), there are patterns of consolidation and growth strategies based on acquisition (see figure 3). Mergers and acquisitions (M&A) activity in container shipping has occurred in spikes, such as when Maersk Line bought Safmarine and Sea-Land in 1999 and acquired P&O Nedlloyd in 2005, and when CMA CGM bought Delmas in 2006. Historically, however, acquisitions in this industry have not been without challenges and have not been as successful as expected. Whether it is acquisitions or a shakeout that drives consolidation, the trend is likely to continue for a number of reasons:

Figure 3
The industry continues to consolidate



Sources: Alphaliner; A.T. Kearney analysis

- **Poor financial returns.** Persistent industry overcapacity during a period of weak global economic growth has weakened a number of large operators.
- **Megaships.** The move to container ships of more than 12,000 TEU favors large operators able to exploit economies of scale.
- **The "portfolio effect."** For large carriers serving multiple markets with global networks, the impact of poor returns on particular routes is softened when other markets do well.

Strategic alliances. Strategic alliances are an option for carriers that cannot or do not want to engage in M&A activities or do not have a competitive cost base. Several carriers join forces to gain scale advantage—but at the cost of giving up some control and flexibility. In terms of control, vessel-sharing agreements are more attractive than slot charter agreements (SCAs) because carriers will remain active on a string, while with SCAs, carriers often give up their own vessels. There are also other alliance options for concentrating volume, efficiently utilizing vessel capacity, and offering more competitive prices or secure financing for new assets. Analysis shows that the average vessel size employed within global alliances such as the CHKY Alliance or Grand Alliance are at least double the size of the vessels used by individual members. While alliances are currently mostly formed on global trade routes, applying this principle to regions, such as on intra-Asian or Baltic trades, may also be a way forward for feeder operators.

Navigating the Route Forward

Size alone does not automatically guarantee success. What matters is a mixture of strategic elements. And perhaps it is not wise to copy the leaders' strategies but rather to find a different approach that can build and exploit market conditions. Strategies to prepare for the future—including fleet composition, network design, and leveraged scale—are equally important; using them fully and balancing them wisely is critical for carriers to navigate the challenging waters ahead. Developing appropriate tactics in all three areas requires high-quality, comprehensive information to see through the current fog.

As with most industries, attracting customers is a main objective. The most successful carriers will be those that are efficient, flexible, and the easiest for customers to do business with. The intermediaries, including global freight forwarders and non-vessel operating common carriers, have steadily increased their market share and are now focused on automating their customer-facing and internal processes. There is no better time than now for carriers of all sizes to consider initiatives and investments for improving transparency and customer processes.

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