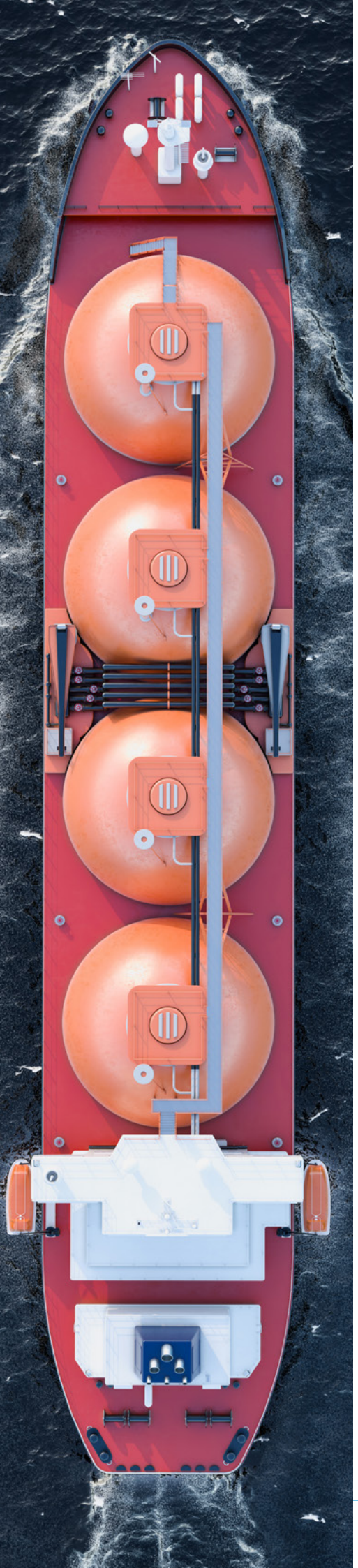
OrbitMI

Lloyd's List

How tanker shipping can thrive in an era of convergence



How tanker shipping can thrive in an era of convergence

Many have said that COVID-19 has pulled the future forward and accelerated digital transformation within the industry. Following the value chain of sustainability reveals how several industry dynamics have not only accelerated but also converged. Developing competencies in using data and intelligence will be fundamental to gaining advantages on the future. The tanker sector has begun this journey.

Capitalizing on a world in convergence

Working at home, as many in maritime have been for approaching ten months, distorts our perception of time. How often have we forgotten what day of the week it is, or looked at the clock to realize we have been in our chairs on video calls for six consecutive hours? At a global level, COVID-19 is widely thought to have accelerated time, "pulling the future forward" by as much as ten years. In addition to this acceleration, we believe COVID-19 has not only accelerated the future but also caused a convergence. To demonstrate this idea, let us follow the value chain of sustainability.

Achieving sustainability requires the convergence of all parts of a shipping organization, starting with efficiently run vessels. Efficiency requires companies to capture, process and analyze data (increasingly by AI), deliver insights to decision makers across multiple business teams, many of which are working from home. Simultaneously, those same insights feed the broader maritime ecosystem.

Regarding operational efficiency David González, founder of the data visualization firm Vizzuality puts it, "some of the largest and cheapest gains could come from operational data-based strategies, such as weather routing or route optimization which can generate far more fuel savings than their implementation cost." More efficiently run vessels consume fewer bunkers, which reduces emissions. This, in turn, reduces costs and expands margins, potentially funding those data driven strategies.

To operate more efficiently, teams must connect with each and empower data in decision making. This comes from many sources: ports, weather feeds, existing internal systems, noon reports, VMS (Voyage Management System), data lakes, on-board sensors, digital twins, etc.

According to a recent study of maritime executives about organizational data and intelligence competencies*, the tanker sector is developing the skills to capture and process data. While there are several areas where there is room for improvement, firms are getting their sea legs.

How do you rate your organization's competence in data capture and processing?

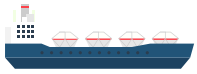
	Excellent	Good
The digital capture of all operations	12%	41%
The transfer of data to software systems	15%	39%
Having robust cyber security and data protection protocols	32%	24%
Centralizing all data into one common platform / database (data warehouse)	15%	26%
The standardization and pre-processing of data	13%	33%
The secure storage and management of centralized data	25%	35%
The visualization of data through software (e.g. Tableau)	8%	36%
The use of analytics to generate insights	10%	25%
The explaining of data insights to management team to take actions	13%	35%

The purpose of capturing data is to process, interpret and enrich it so departments can take effective action. For that, you need software. What software tools are most prevalent? As with other sectors, tanker companies rely on spreadsheets for analysis, due to the ubiquity of MS Excel.

Individuals in functions such as chartering and operations leverage spreadsheets, painstakingly crafted to support their specific business functions. Yes, spreadsheets can get a job done, but relying on them hampers company-wide sharing, increases risk of security breaches, data loss, slows workflow and limits broader scientific analysis to gain competitive advantages. Moving data across departments often entails error prone copy-and-paste from spreadsheet to spreadsheet as well as double-entry into other systems. Therefore, it is encouraging to see that tankers also use more advanced tools such as PowerBI, Oracle/SQL and SAS at a rate comparable to other sectors.

How does your tanker company analyze its data?



	Tankers	Bulkers	Containers	Gas Carriers
MS Excel	40%	43%	39%	36%
MS Access	19%	16%	19%	15%
Other	1%	2%	1%	2%
PowerBI/Tableau	16%	14%	13%	17%
Oracle/SQL	19%	22%	24%	25%
SAS	6%	4%	5%	6%

Putting data to work for remote workers

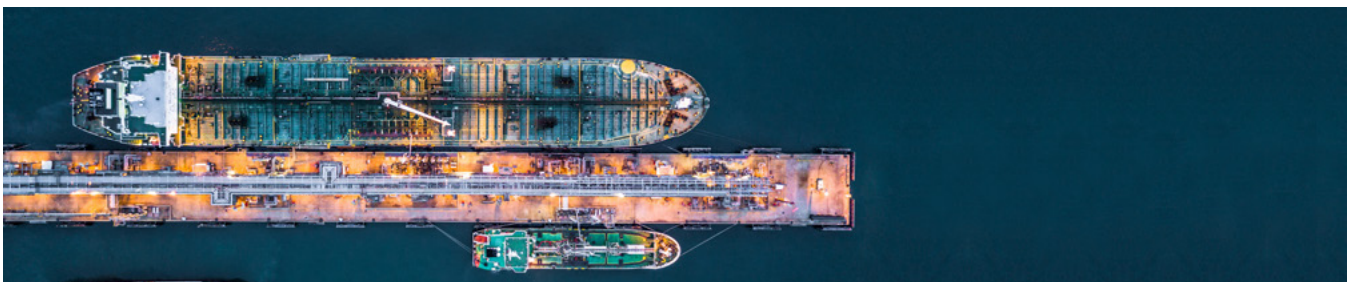
How can that data be put to work when staff is globally dispersed and working remotely? It requires digital technology (SaaS - Software as a Service) platforms that deliver insights to smart phones and laptops so remotely working commercial teams can materially impact a voyage (such as reducing speed and consumption) whenever they can, and from wherever they are. End-users will include the technical management team which ensures that hardware functions properly, and on-shore vessel operators needing to optimize itinerary – predicting port congestion and guiding vessels safely through rough seas for efficient arrival.

In the same way, that data - about voyages, fleets, speed, consumption – feeds the task of regulatory compliance and reporting as well as the due diligence of "green" investors guided by the Poseidon Principles who demand transparency into vessel efficiency and emissions.

Much of the heavy lifting, particularly regarding predictive analytics and processing data for compliance purposes, will be accelerated by machine learning and artificial intelligence (AI). Respondents suggest that tanker companies are beginning to experiment with AI.

How do you rate your organization's competence in these AI related tasks?

	Excellent	Good	Average	Poor	Very Poor
Bringing together AI and software programmers to deploy machine learning models	14%	17%	28%	34%	7%
Deployment of AI systems to work in real time to solve business challenges	13%	16%	16%	45%	10%
The engagement with business users to ensure adoption of AI systems, the measurement of results, and continuous improvement	10%	23%	19%	39%	10%



AI adoption is increasing in nearly all industries, but capabilities vary.

Maritime may be slow to adopt AI, but it would appear few other industries have harnessed it effectively. A recent study reveals that "AI adoption is increasing in nearly all industries, but capabilities vary." Furthermore, in those industries only "a small share of companies—from a variety of sectors—are attaining outsize business results from AI." *(Source: Global AI Survey: AI proves its worth, but few scale impact, McKinsey & Co., November 2019)*

The value chain of sustainability demonstrates convergence

We began our discussion looking at the value chain of sustainability. Now we are onto AI. But as a practical matter, we are still talking about sustainability. That value chain impacts on everything. Inputs to the P&L, how to maximize margins, digital transformation, performance optimization, managing a remote workforce, regulation, compliance, and even finance.

This is what is meant by convergence. It will not just evaporate organizational and technological siloes, but also bring about massive transformation in how the industry will operate in the future.

Tanker companies see the opportunity

Data lies at the heart of convergence. It has become imperative for shipping to be data driven. Possessing these and other competencies will be fundamental to gaining advantage on the future, Fortunately, the tanker sector recognizes the opportunity: 81% of respondents in the tanker sector see the adoption of data intelligence as holding a prominent level of importance within the maritime industry.

Orbit solutions help you gain advantage

Orbit helps you take advantage of this convergence, without investing in costly software development, AI capabilities or hiring a team of data scientists. Our customers integrate their existing systems—such as their reporting tools, software subscriptions and VMS (Voyage Management System) --into our open architecture web-based solutions, which use machine learning and AI to enrich that raw data, verify its accuracy, add historical context, and apply market intelligence—plus a bit of predictive analytics where necessary. Orbit then activates that newly transformed and enriched data through dashboards, alerts and predictive analytics which can be accessed and delivered to all departments both ship and shore in real-time via desktop, tablet, and smartphone.

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