



Shipping Technology (Ship Tech)

INDUSTRY UPDATE

Q1-Q3 2024





Q1-Q3 2024 Market Summary

INTRODUCTION

Stout is proud to introduce our Shipping Technology (Ship Tech) Review and Outlook Report, covering Q1-Q3 2024. This analysis provides insights into the ship tech sector, including market analysis, market trends, and influential industry players within the context of the broader macroeconomic and maritime landscape. The report also features a detailed overview of significant M&A and venture capital activities along with noteworthy market developments that are shaping the future of the industry.

OVERVIEW

Technology is crucial for modernising the shipping industry, boosting efficiency, and allowing it to meet regulatory and environmental standards. With stricter regulations and an aging fleet, companies are turning to digital solutions to ensure compliance, maximise efficiency, and increase vessel life. Ship tech covers a wide range of solutions focused on fleet and vessel improvements, and on voyage and commercial improvements. The push for decarbonisation and sustainability has increased the demand for these solutions, helping the industry tackle challenges such as rising fuel costs, regulatory requirements, and economic pressures.

Digitalisation is driven by improved and cheaper ship-to-shore connectivity, sparking a wave of innovation and investment. Ship tech companies fall into two main groups: established players modernising legacy offerings in saturated markets (e.g., charts or port operations) and start-ups leveraging advanced technology for real-time data exchange and workflow improvements (e.g., voyage performance or cargo intelligence). The huge number of players has created intense competition, with players now forced to merge and scale to meet demand from customers for more integrated and compatible technology solutions.

KEY MARKET TRENDS

The shipping technology industry is undergoing significant transformation, driven by decarbonisation goals and strict regulations targeting net-zero emissions by 2050. This push has fuelled investment in energy-efficient technologies and alternative fuels and obligated all shipowners to upgrade their systems.

The high cost of alternative fuels also increases the need for optimisation tools and equipment to increase profitability.

However, the industry is held back by client suspicion about the benefits of technology and the use of their proprietary data, scepticism about the pace of the green transition in shipping, and the bewildering array of new services they are being invited to buy.

Industry consolidation is rising, as major platforms acquire niche companies to provide more complete solutions and many startups run out of capital. This trend is creating comprehensive digital solutions offering significant benefits, forcing the whole industry to embrace digitalisation, not just the green leaders.

Q1-Q3 2024 Market Summary (cont.)

GLOBAL MACRO PERFORMANCE

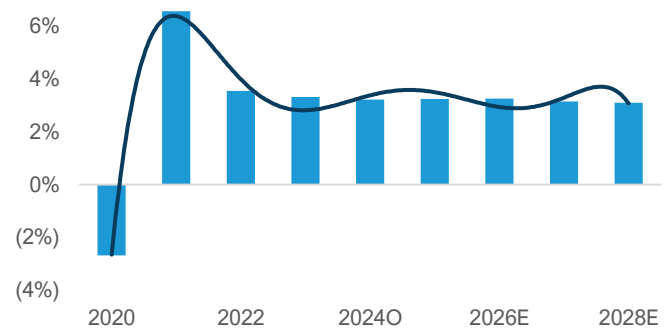
Over 2024 to Q3, the global economy experienced moderate growth amid persistent inflation, cautious consumer sentiment, and high borrowing costs. Central banks, including the U.S. Federal Reserve, announced rate decreases as inflation held steady, providing a positive market outlook. Although rates decreased, the cost of capital remains high, constraining investment.

Oil prices decreased, despite OPEC+ production cuts and geopolitical tensions, which decreased operating costs across fuel-dependent sectors. Inflation, though slightly cooled, kept input costs elevated, while cautious economic sentiment led businesses and consumers in developed markets to curb spending and manage costs more conservatively.

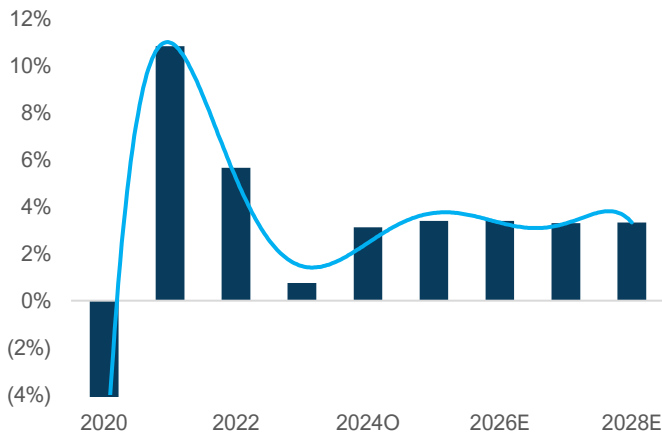
Oil Price (\$ - Spot Price)



Global GDP Growth (annual % change)



Global Trade Volume of Goods & Services (annual % change)



MARKET OUTLOOK

With inflation easing and central banks lowering interest rates, many economies are cautiously optimistic about achieving moderate growth while averting recession. Falling oil prices and a projected 3% annual increase in global trade volumes support a positive outlook for shipping demand. This is expected to strengthen profitability, generating higher cash flows for shipping companies. With increased capital, shipping companies are likely to invest in new and existing assets, driving demand in hardware and software sectors. However, the sector could face some headwinds, with growth opportunities potentially dampened by geopolitical tensions, including Trump's recent U.S. presidential victory. Potential protectionist U.S. policies could disrupt trade flows and limit demand for adaptive and advanced technologies. Such shifts may require companies to prioritise cost-effective, adaptable tech solutions to maintain competitiveness in a less predictable trade environment.

Central Bank	Rate (01/01/24)	Change	Rate (30/09/24)
Federal Reserve	5.25-5.50%	(0.50%)	4.75-5.00%
ECB	4.00-4.75%	(0.50%)	3.50-3.90% ¹
BoE	5.25%	(0.25%)	5.00%

Sources: IMF, S&P Capital IQ

¹Effective 18 September, the ECB set the main refinancing-deposit rate spread to 15-bps and kept a 25-bps spread for the marginal lending rate

Market Analysis

GLOBAL SHIPPING FLEET

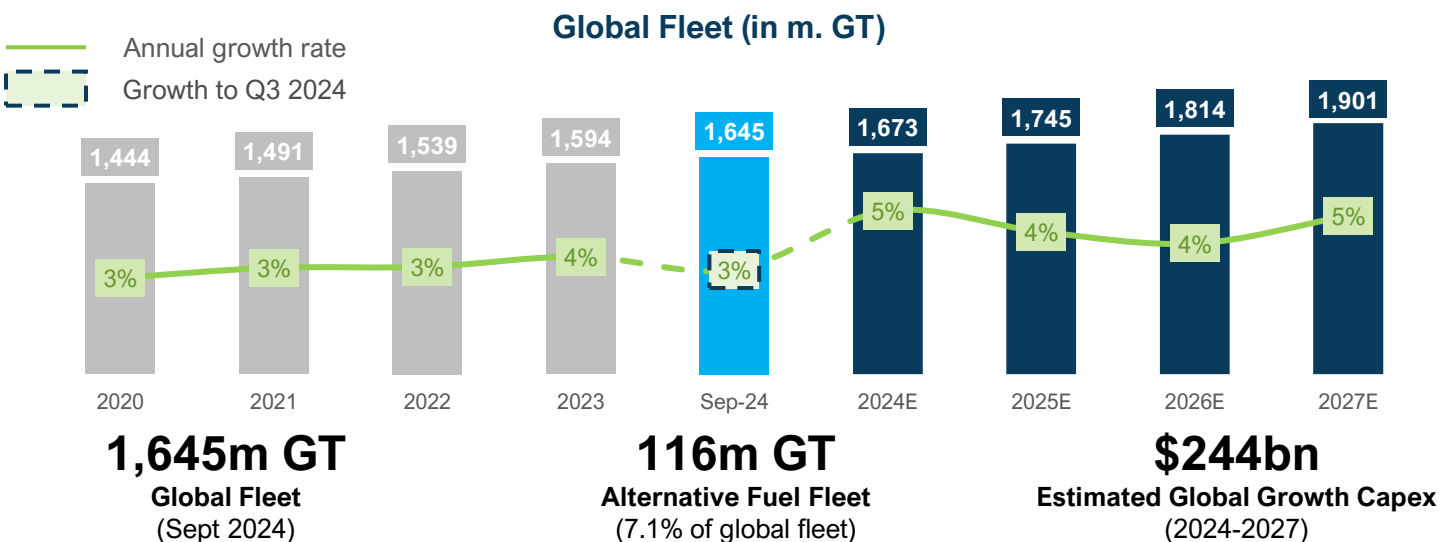
Despite recent inflation, the global shipping fleet and orderbook continue to grow due to strong cash flows and the need to renew an aging fleet, which increased from an average age of 20.8 years in 2020 to 22.4 years in Q3 2024. Replacing tankers, dry bulkers, and containerships is estimated to cost more than \$900 billion over the next 10-15 years, according to Clarkson's.

Over 2024, the global fleet is forecasted to grow 5% (3% until Q3 2024). The 2024-2027 orderbook totals 257 million GT (16% of the current fleet) with 51% (132 million GT) being alternative fuel-capable vessels, including LNG, methanol, ammonia, LPG, and hydrogen. By 2030, over 20% of fleet capacity is expected to support alternative fuels due to stricter greenhouse gas regulations. By 2025, nearly half of the container fleet is projected to receive corrective regulatory ratings, prompting shipowners to adopt digital solutions for compliance and improved operational performance.

GLOBAL SHIPPING FLEET INVESTMENT

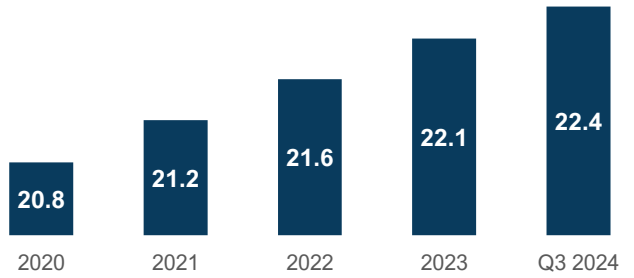
Growth capex is rising YoY, with global spending projected to reach \$244 billion from 2024 to 2027 based on an orderbook of 257 million GT. This investment will support fleet renewal as shipowners modernise and pursue net-zero emissions by 2050.

— Annual growth rate
 - - - Growth to Q3 2024

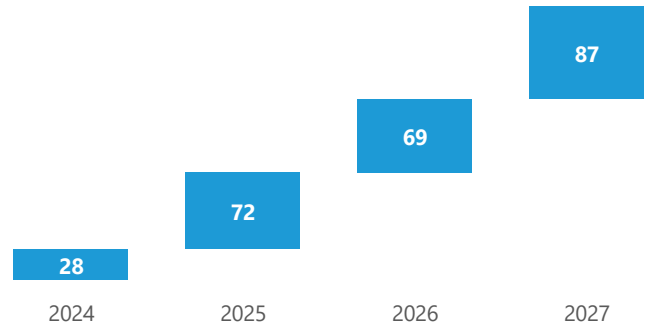


*Estimated by multiplying the annual Orderbook GT by the \$ per GT, derived from the total global fleet value in \$ and GT as of Sept 2024
 Sources: BCG, Clarkson's, Entrust Global

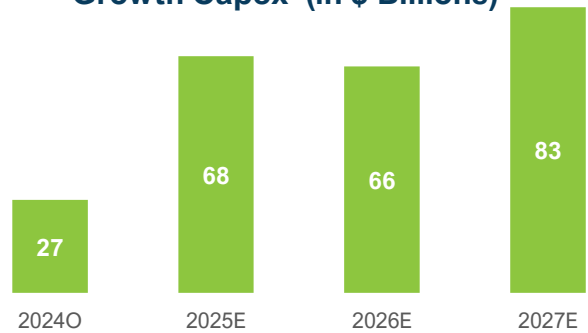
Global Fleet (Average Age in years)



Current Orderbook (in m. GT)



Growth Capex* (in \$ Billions)



Market Trends

DECARBONISATION

The shipping industry, responsible for 2-3% of global GHG emissions, must reduce its impact by 2050 to meet Paris Agreement targets. Emerging fuel alternatives such as methanol, ammonia, and fuel cells are expensive and still in development, with battery technology unsuitable for long voyages. Shipowners face the risk that current propulsion options could become obsolete within a typical 25+ year vessel lifespan. This uncertainty has led to a focus on extending the life of existing and new vessels, promoting growing investment in fuel efficiency technologies and digital solutions to reduce costs and emissions.

The shipping industry's transition to alternative fuels remains pivotal, with 509 fuel-capable units totalling 38.3 million GT ordered so far in 2024 as of September 2024. This represents 49% of contracted tonnage and marks a 10% increase from the total in 2023, measured by GT. The alternative fuel-capable orderbook has seen a 24% year-on-year growth in GT terms and now accounts for 51% of the total tonnage on order.

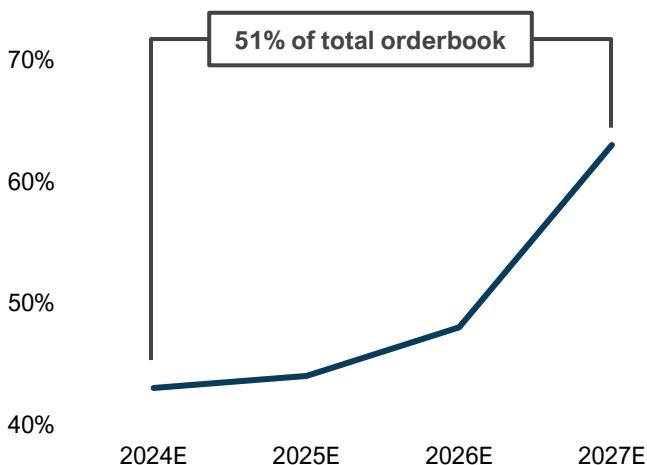
GROWING SEGMENTS

The **data-enabled operational efficiency** market is expected to grow 12-17% annually over the next 4-5 years, driven by advancements in cargo & capacity, voyage, and vessel optimisation technologies. This growth is occurring within a fragmented landscape of digital solution providers. As ship operators seek to reduce costs, demand for comprehensive, end-to-end digital solutions that integrate fleet management, vessel optimisation, and ERP systems is fuelling significant market consolidation among smaller providers.

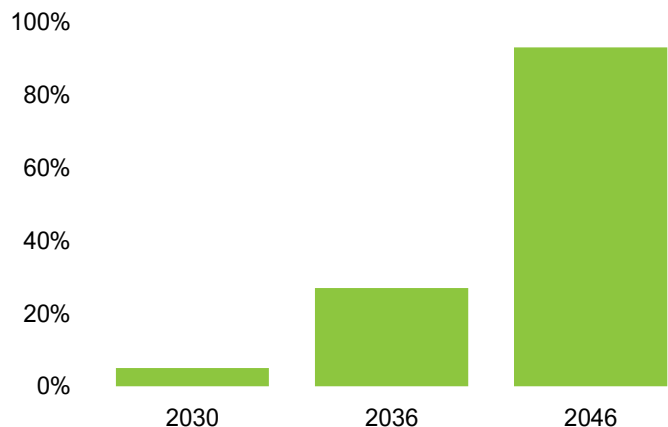
The **technological efficiency** market is expected to grow 6-8% annually with propulsion systems experiencing the largest growth. This sector focuses on cutting energy use via propulsion and hybrid energy solutions, drag reduction, and other technical advancements. It is a highly concentrated market dominated by a few large players alongside smaller competitors.

The **alternative fuels** market is forecasted to grow from \$7bn in 2025 to over \$100bn by 2045, driving interest in energy-saving technologies. Methanol, ammonia, and hydrogen offer significant reductions but are still in early stages, while LNG and biodiesel serve as interim fuels. The higher cost of alternative fuels further enhances the business case for energy-saving technologies as fuel prices rise. Approximately 51% of the current orderbook tonnage is alternative-fuelled.

Alternative Fuel % GT of Annual Order Book



Required Alt Fuel Adoption Rates for Net Zero 2050



Sources: BCG, Clarkson's

Shipping Technology Market Players

DIGITAL / SOFTWARE PROVIDERS



Sources: Stout Database

To view the full market map, please contact: dserwin@stout.uk

Shipping Technology Market Players (cont.)

SUPPLIERS AND EQUIPMENT PROVIDERS

OEMs

ABB, ITT, Alfa Laval, Raytheon Technologies, Furuno, BERG PROPULSION, Nabtesco, Schneider Electric, Parker, SIEMENS energy

Engine Producers

WÄRTSILÄ, KONGSBERG, CATERPILLAR, MAN, HD HYUNDAI INFRACORE, MITSUBISHI HEAVY INDUSTRIES, ROLLS ROYCE, ANGLO BELGIAN CORPORATION, Cummins, YANMAR

Marine Service Providers

V.Group, COLUMBIA SHIPMANAGEMENT, ANGLO-EASTERN, BSM, Northern Marine, INCHCAPE SHIPPING SERVICES, Gac, seenergy, Wallenius Wilhelmsen, WALLEM ESTD 1903, Fleet Management Limited A Caravel Group Company, LOMAR, OSM Thome

Professional Service Providers

WINDWARD, CLARKSONS, DNV-GL, IDWAL, Lloyd's List Intelligence, BUREAU VERITAS, NIPPON KAIJI KYOKAI, LLOYDS, TT, AXS MARINE, R, Marcura, ABS, braemar, RIFA, BIMCO

Sources: Stout Database



M&A and VC Highlights

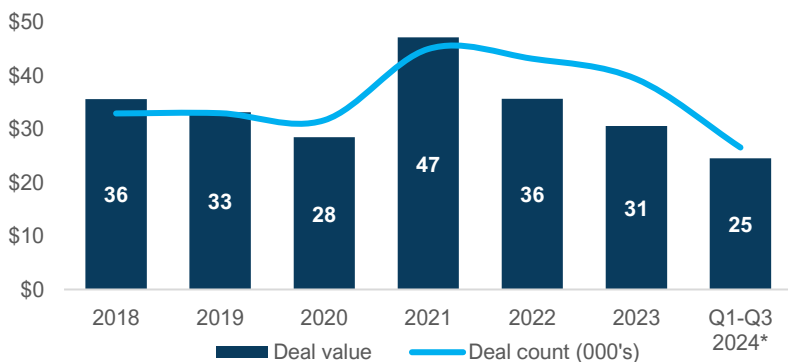
M&A ACTIVITY

Global M&A activity has seen a relative decline in recent years due to higher costs of capital and inflationary pressures; however, it is now returning to pre-COVID levels. Despite a slightly lower number of deals, Q1-Q3 2024 saw a higher deal value compared to Q1-Q3 2023. In the maritime software sector, deal count and value have both increased in recent years through a consolidation wave driven by investor interest and the gradual adoption of SaaS solutions driven by reporting, compliance, fuel costs, and crew workload challenges. Larger companies such as Zeronorth and ABB are acquiring competitors in a saturated market, exemplified by Zeronorth’s acquisition of Alpha Ori and Euronav’s FAST platform, and ABB’s acquisition of DTN Shipping over 2024. Classification societies such as Lloyd’s Register are also expanding their reach by acquiring digital platforms, such as its recent acquisition of Ocean Technologies Group. While initially fuelled by high investor expectations, the sector’s revenue potential is constrained by the limited number of commercial vessels, the high cost of software development, and fragmented demand, making it difficult for start-ups to achieve significant returns. Many SaaS providers face the challenge of shipowners only allocating a few thousand dollars annually per vessel for such services, resulting in a mismatch between investment and revenue potential. This shift has refocused the sector toward strategic, long-term investments, with more M&A activity expected.

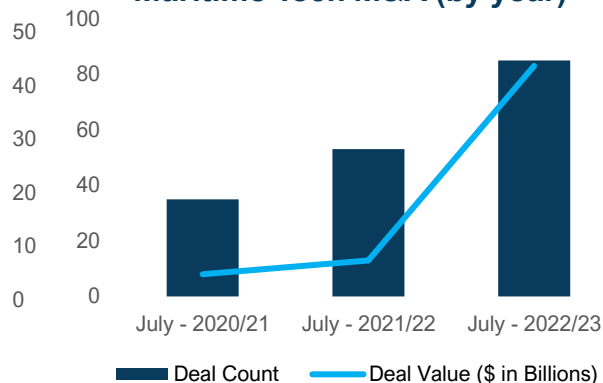
VC ACTIVITY

Investor interest in supply chain and shipping start-ups has dropped since 2016. Despite over \$50 billion invested globally in general performance and logistics software, funding rounds fell from 446 in 2021 to 208 in 2023, with total investment declining from \$13 billion to \$2.1 billion. This has led to layoffs and business collapses, with similar challenges expected in the shipping software sector. As venture funding recedes, M&A activity has risen, with further consolidation expected for growth, achieving economies of scale and stability of service.

Global M&A Activity (\$ in trillions)



Maritime Tech M&A (by year)



*as of 09/30/2024

Sources: Pitchbook, Tradewinds, Crunchbase, Thetius, Stout Database

Ship Tech M&A Database Highlights

Q1-Q3 2024 SHIPPING TECHNOLOGY INDUSTRY - M&A TRANSACTIONS

Investor	Target	Key Information	Target Description
 	 	Announced: 2 nd Sept 2024 Transaction amount: ND	Provides digital learning, crew management, and fleet management solutions for the maritime industry. Offerings include e-learning, competency management, and regulatory support
 	 	Announced: 26 th August 2024 Transaction amount: \$79m	Developer of fuel cell system integrator designed to distribute power generation in industrial and commercial applications
 	 	Announced: 19 th August 2024 Transaction amount: ND	The company's intelligent software offers digital and smart procurement of logistics services including both long-term freight tenders as well as short-term rate requests, enabling clients to analyse tenders from multiple carriers
 	 	Announced: 19 th August 2024 Transaction amount: ND	This acquisition will strengthen Accelleron Industries' position in the maritime digital space and support marine decarbonisation
 	 	Announced: 2 nd July 2024 Transaction amount: ND	The company offers a wide range of information security, consultancy and managed services, including cyber security, risk compliance, assessments, tests, training, and education
 	 	Announced: 1 st July 2024 Transaction amount: ND	The company offers marketing, development, licensing, and sale of hydrogen generation systems for application to the marine industry
   	 	Announced: 16 th June 2024 Transaction amount: \$600m	The company specialises in the technical management of maritime assets outsourced by ship owners as well as the provision of a wide range of high-value technical, personnel, and advisory services, providing tailored services
 	 	Announced: 13 th June 2024 Transaction amount: ND	Operator of a software development company intended to turn sensor data into actionable intelligence
 	 	Announced: 31 st May 2024 Transaction amount: ND	The company's platform offers the analysis of all ships in their fleet and related information to optimise management and logistics as well as provides vessel tracking software and maps for inland shipping
 	 	Announced: 24 th May 2024 Transaction amount: \$800m	The company offers online training in safe conduct and survival skills, competence management, and crisis management to the employees of companies in the O&G, maritime, renewable energy, and other high-risk industries
 	 	Announced: 30 th April 2024 Transaction amount: ND	Operator of a data compiling and report generation platform intended to collect data and generate emission reports for its clientele

Sources: Pitchbook, Stout Database

Ship Tech M&A Database Highlights (cont.)


































Q1-Q3 2024 SHIPPING TECHNOLOGY INDUSTRY - M&A TRANSACTIONS (CONT.)

Investor	Target	Key Information	Target Description
		<p>Announced: 24th April 2024 Transaction amount: ND</p>	<p>Reygar offers remote communication solutions, including a range of terminals and devices of network, data and information management and remote asset tracking</p>
		<p>Announced: 5th March 2024 Transaction amount: ND</p>	<p>Provider of regulatory intelligence and compliance management services for the maritime industry. The company offers internal procedures to resolve compliance difficulties and non-conformities</p>
		<p>Announced: 27th February 2024 Transaction amount: ND</p>	<p>VPS specialises in analysis of performance data from commercial ships in order to provide decision support related to fuel efficiency</p>
		<p>Announced: 21st February 2024 Transaction amount: ND</p>	<p>Alpha Ori's products include SMARTShip, an AI-powered platform that optimises vessel operations, and SMARTShip IoT, which enables real-time monitoring and analytics onboard ships</p>
		<p>Announced: 16th February 2024 Transaction amount: ND</p>	<p>K Line attributed the acquisition to its desire to further develop the Seawing and commercialise it</p>
		<p>Announced: 1st February 2024 Transaction amount: ND</p>	<p>Euronav's FAST platform collects advanced high-frequency data in real-time from sensors for the purpose of ship reporting, voyage optimisation, and ship optimisation</p>
		<p>Announced: 26th January 2024 Transaction amount: ND</p>	<p>YMT offers a diversified portfolio of products and services, including vessel optimisation hardware and software, shore power conversions, and scrubber service</p>
		<p>Announced: 24th January 2024 Transaction amount: ND</p>	<p>Specifically, the acquisition of the DTN Shipping portfolio covers vessel routing software, including analytics, reporting, and modeling applications</p>
		<p>Announced: 22nd January 2024 Transaction amount: ND</p>	<p>Developer of maritime software for technical fleet management, procurement, and fleet supply to allow efficient and safe operations</p>
		<p>Announced: 19th January 2024 Transaction amount: \$408m</p>	<p>The integration of the company is expected to enhance product offerings and service capabilities in the marine sector, particularly in the growing market for low-emission and green fuel technologies</p>
		<p>Announced: 4th January 2024 Transaction amount: \$225m</p>	<p>Subsidiary of Telenor Group, the acquisition will enable Space Norway to enhance its national ability within satellite services and pave the way for its growth and new satellite projects</p>

Sources: Pitchbook, Stout Database

Ship Tech VC Database Highlights

Q1-Q3 2024 SHIPPING TECHNOLOGY INDUSTRY - VC TRANSACTIONS

Investor	Target	Key Information	Description/Comment
 	 	Announced: 3 rd Sept 2024 Capital Raising: \$3.3m	Signal applies behavioural science to improve fuel efficiency and reduce carbon emissions in industries like aviation and maritime by providing data-driven, personalised feedback to employees
 	 	Announced: 10 th July 2024 Capital Raising: \$2.2m	The company's platform provides a real-time maritime cargo tracking service that improves checking transportation information and updates one by one on the shipping company's website or the ship's location on overseas sites
  	 	Announced: 23 rd May 2024 Capital Raising: \$23m	The company's system combines AI and data generated from multiple sources to create an awareness system that provides predictions and alerts on hazards, and reduces collisions
 	 	Announced: 15 th May 2024 Capital Raising: \$16m	The company's platform optimises the port cost management processes and streamlines disbursement account analysis, enabling ship owners, management companies, and charterers to improve their operational efficiencies
 	 	Announced: 13 th May 2024 Capital Raising: \$1m	Developer of an AI platform designed for marine insurance underwriting
 	 	Announced: 13 th January 2024 Capital Raising: \$34m	Operator of an energy trades analytics platform designed for intelligent data insights into waterborne energy trades
 	 	Announced: 12 th January 2024 Capital Raising: \$0.5m	A pioneer in the maritime SaaS space, Enqlare is empowering businesses to optimise their laytime, port calls, and shipments
 	 	Announced: 11 th January 2024 Capital Raising: \$11m	WaveBL is a blockchain-based platform enabling secure, instant transfer of electronic trade documents, streamlining global trade by replacing traditional paper processes

Sources: Pitchbook, Stout Database

Stout Ship Tech Practice

ABOUT

- For over 30 years, Stout has been dedicated to serving the specialised M&A transaction advisory needs of middle-market clients. We are a trusted partner to leading organisations, renowned for our deep industry expertise, senior-level involvement, process excellence, and unwavering commitment to delivering exceptional outcomes.
- In the U.K., Stout’s team brings extensive advisory experience with a specialised focus on the maritime and shipping technology industry, providing tailored solutions to meet the unique demands of this dynamic field.

FOCUS AREAS

Software & Hardware

- Port & Terminal Software
- Vessel Performance
- Workflow Optimisation
- Fleet Management
- Freight & Logistics
- Seafarer Process Digitalisation
- Weather & Navigation
- Cargo Flow Analytics
- Commercial Management
- Vessel Inspection
- World Fleet Registers
- Logistics Planning
- Real-time Scheduling
- Fuel Consumption
- ERP Technology
- Benchmarking

SELECT STOUT TRANSACTIONS

IDWAL
a portfolio company of
GRAIG
has been acquired by
LDC
SELL-SIDE ADVISOR

AURELIUS
has acquired
ARDENT
BUY-SIDE ADVISOR

Braemar Response
a division of
BRAEMAR
has been acquired by
ambipar GROUP
SELL-SIDE ADVISOR

Yara Marine Technologies
a division of
YARA
has been acquired by
OKAPI ENERGY GROUP
SELL-SIDE ADVISOR

Ship Management
a division of
GRAIG
has been acquired by
V.Group
SELL-SIDE ADVISOR

COACH SOLUTIONS
a portfolio company of
CLIPPER
has been acquired by
KONGSBERG
SELL-SIDE ADVISOR

Advised
BRAEMAR
on its sale of
BRAEMAR **WAVESPEC**
SELL-SIDE ADVISOR

Isle of Man Government
has been acquired by
Isle of Man Government
SELL-SIDE ADVISOR

Global Marine Systemics
has been acquired by
HCP
SELL-SIDE ADVISOR

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Note: Transaction experience may include work by Stout professionals while at prior firms



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