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Navigating the Maritime Software Landscape

November 2024



Executive summary



A clear end-user value proposition

The maritime industry is undergoing a long overdue digital transformation to address, amongst other, value chain inefficiencies and sustainability targets.

Based on our experience and market intelligence, digital maritime leaders can achieve significant short- and medium-term operational cost savings compared to industry laggards. In the longer term, the industry anticipates and prepares for fully autonomous operations with maximum operational efficiency throughout the value chain.

A growing sector with M&A potential

The market is still relatively immature and fragmented. Across the seven main software segments, we estimate the 2023 market size to be ~2 USDbn.

However, the ongoing digitalization of the maritime industry is fueling a substantial growth within the maritime software sector. We estimate the overall market to grow at a double-digit rate annually to reach ~3 USDbn by 2028.

Both corporate and financial sponsors recognize the growth and consolidation potential, driving M&A across several attractive ways to play across the various segments.

Untapped value creation opportunities

Norway has long traditions in the maritime industry and is a frontrunner when it comes to digital adoption. It is therefore no surprise that many of the maritime software category leaders originate from Norway and have attracted strong interest from buyout funds.

Players and investors within the maritime software space can create value through an ample range of value creation levers, including purposeful and scalable product development, impacting strategic positioning and driving increased software adoption.

Navigate through our report for more insights!

The maritime industry is characterized by high cost focus, regulatory requirements and increasing focus on sustainability and emissions

Market trends driving growth in the maritime software market



Fleet utilization and cost-saving

- High cost focus in low-margin business, affected by large assets where it is key to optimize the fleet utilization
- Technologies that enable vessel owners to significantly enhance their operations are on the rise
- High energy cost drags attention to cost reducing software for fuel optimization



New IMO regulations

Vessel owners and operators must continuously improve efficiency and environmental performance, as well as safety of their vessels to comply with the latest regulations set by the International Maritime Organization (IMO)



Vessel connectivity and SaaS

- Rapid increase in number of vessels on high-speed bandwidth, expected to increase from 25k vessels today to 45k vessels by 2024, is facilitating the general digitalization, as it allows data to flow faster and cheaper to and from shore
- AI combined with data from IoT devices and satellites is increasingly used for applications such as route optimization and autonomous navigation, as well as operational analytics and monitoring of machinery and emissions



Cyber security concerns

Cyber security is an increasingly important topic for the maritime and offshore industries due to rapid digital transformation and new regulations¹

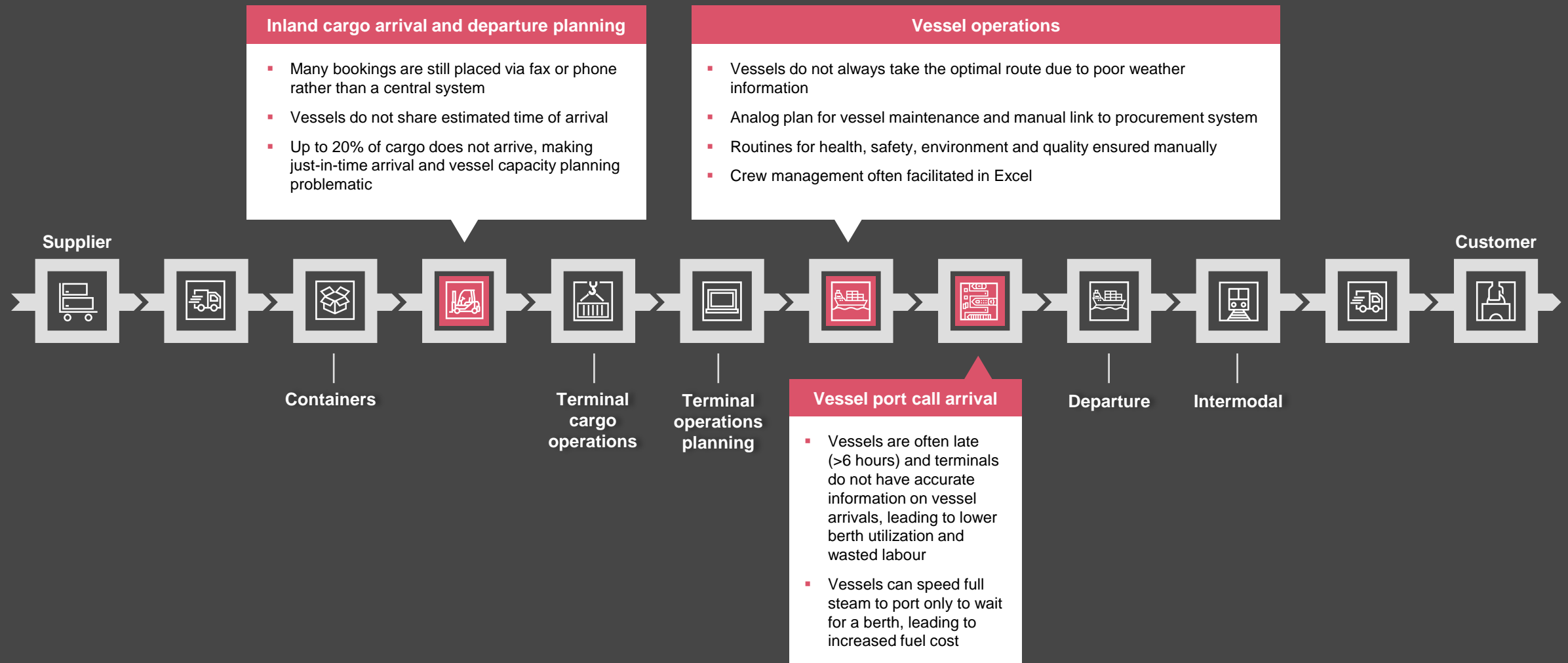


Sustainability and reducing emissions

- New reporting regimes from the IMO and the EU are increasing requirements on energy and carbon efficiency
- IMO requires all vessels to measure and report on energy efficiency (EEDI, CII), which can be managed and reported through digital solutions
- Low-carbon technologies include software solutions such as optimized power usage, wind assistance, and propeller usage

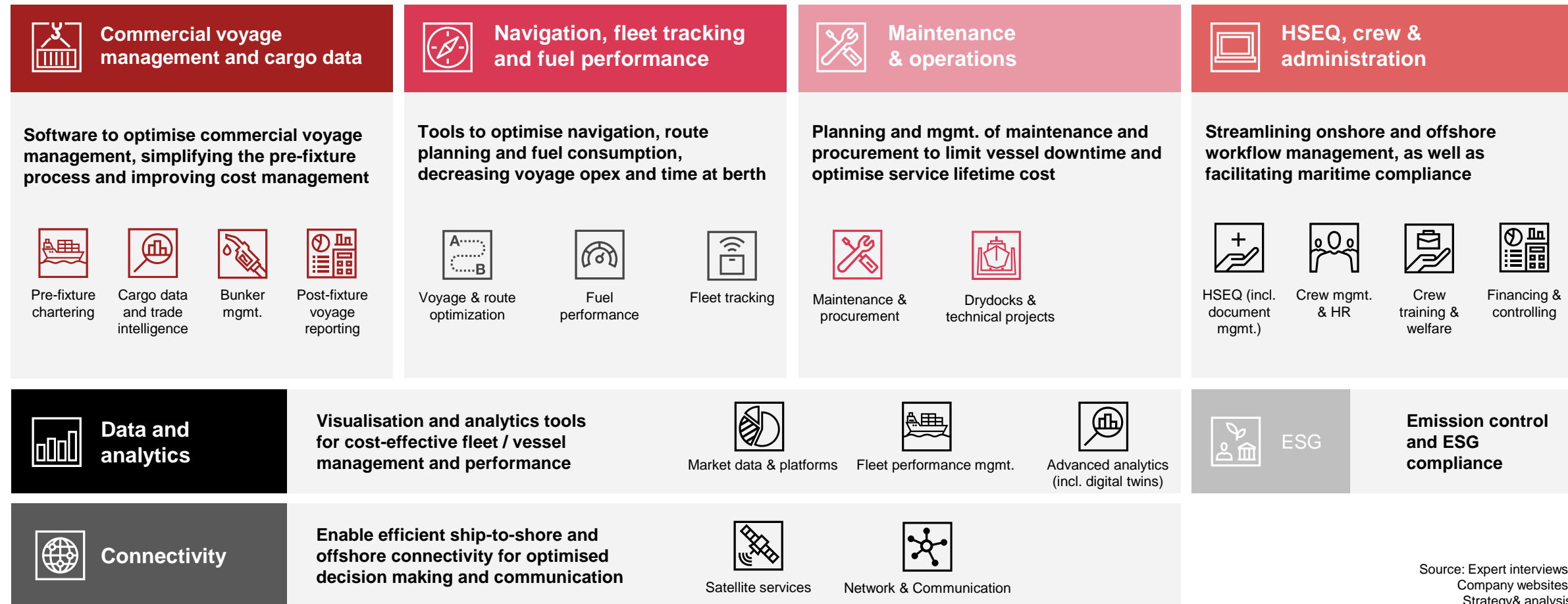
There are widespread inefficiencies in the maritime value chain, mainly linked to manual processes and lack of real-time information

Shipping value chain and selected existing inefficiencies



The maritime SW landscape consists of seven segments, tapping into commercial, operational and administrative functions

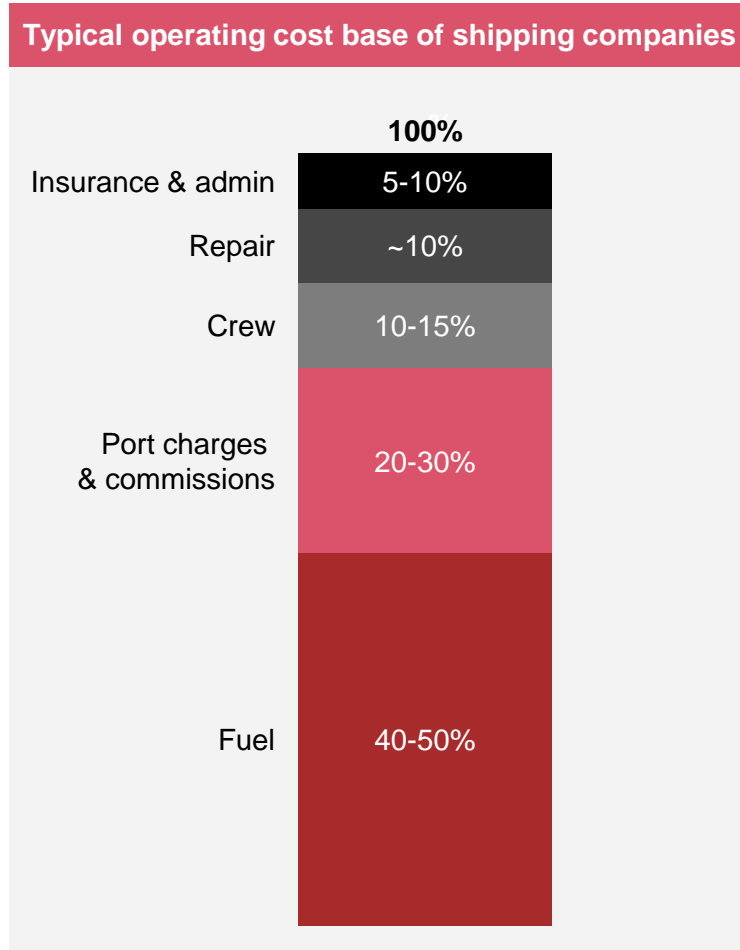
Software segments and value proposition








Source: Expert interviews, Company websites, Strategy& analysis

Today's maritime software address challenges across the entire operating cost base of shipping companies

















Maritime software value proposition



Software value proposition		
	Complexity drivers	Software value proposition
 <p>Insurance and admin</p>	<ul style="list-style-type: none"> New IMO regulations and HSEQ standards Inefficient document handling 	<ul style="list-style-type: none"> Digital document handling HSEQ system ensuring compliance Digital overview of insurance claims
 <p>Repair</p>	<ul style="list-style-type: none"> High number of vessel parts and maintenance schedules to keep track of IMO maintenance requirements 	<ul style="list-style-type: none"> Digital register for vessel parts and maintenance schedules with live status Better management of larger repair projects and purchasing (e.g. dry-docks)
 <p>Crew</p>	<ul style="list-style-type: none"> Manual processes and complex planning of crew rosters and crew schedules Excel-based time sheets and travel bookings 	<ul style="list-style-type: none"> Centralized communication Improved HR process workflow Competence-based planning
 <p>Port charges and commissions</p>	<ul style="list-style-type: none"> Port charges can be difficult to understand and vary significantly (low price transparency) Payment & FX charges 	<ul style="list-style-type: none"> Digital platforms for all port admin, including specific cost breakdowns Price benchmarking
 <p>Fuel</p>	<ul style="list-style-type: none"> Optimal voyage planning can be complex and is dependent on real-time data Lack of performance data on vessels Sulphur oxide emission control areas 	<ul style="list-style-type: none"> Digital charts (pay-as-you-sail) Data-driven route optimization models reduces fuel cost and improves safety

Adopters of maritime software achieve significant time and cost savings as well as improved regulatory compliance

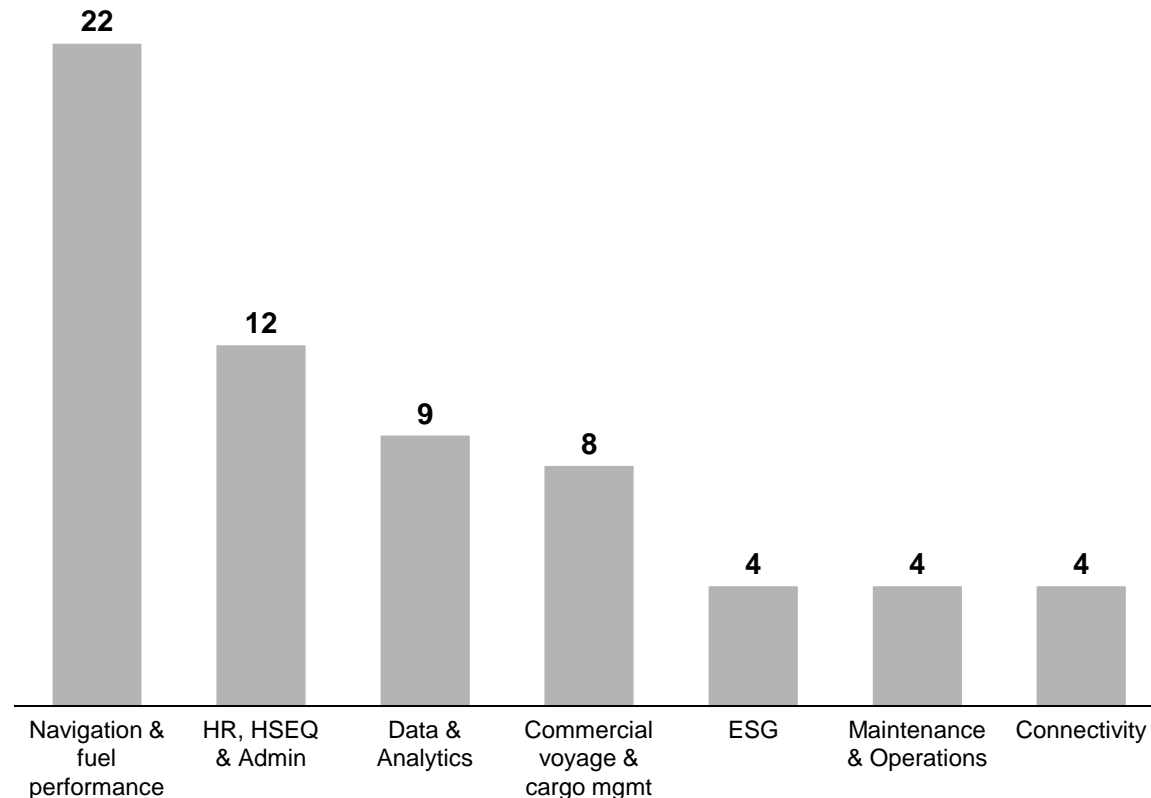
Two types of maritime software

Two maritime software use cases	Legacy solution	New digital solution	Value proposition of digital solution		
 <p>Dry-dockings and technical projects Plan and execute dry-dockings and other costly technical projects</p>	 Microsoft Excel  Microsoft Word  E-mail & fax	 <pre> graph TD Cloud[Cloud] -.-> Planning[Planning tools] Cloud -.-> Templates[Templates] Cloud -.-> Mobile[Mobile app] </pre> <p>Planning tools Planning and overview of fleet's upcoming projects</p> <p>Templates Best-practice masterplans and job specifications</p> <p>Mobile app. Reporting & tracking of work orders at yard</p>	 <p>Reduced planning time and effort</p>	 <p>Reduced material costs through early and bundled purchasing</p>	 <p>Minimize variation orders, yard rent and off-hires</p>
 <p>Voyage and route optimization Ensure safe & efficient routes, while complying with regulations and minimizing emissions</p>	 Physical charts  Manual ordering of charts  Excel-based passage planning	 <pre> graph TD Cloud[Cloud] -.-> Planning[Passage planning] Cloud -.-> Charts[Digital charts (ENC)] Cloud -.-> Route[Route optimization] </pre> <p>Passage planning Automated passage plan creation</p> <p>Digital charts (ENC) Real-time sync. with vessel's navigation system (ECDIS)</p> <p>Route optimization Dynamic route optimization based on vessel & weather data</p>	 <p>Usage-based cost through «Pay As You Sail» business model</p>	 <p>Compliance with mandatory safety and environmental regulations</p>	 <p>Reduce costs related to fuel usage and pilotage</p>

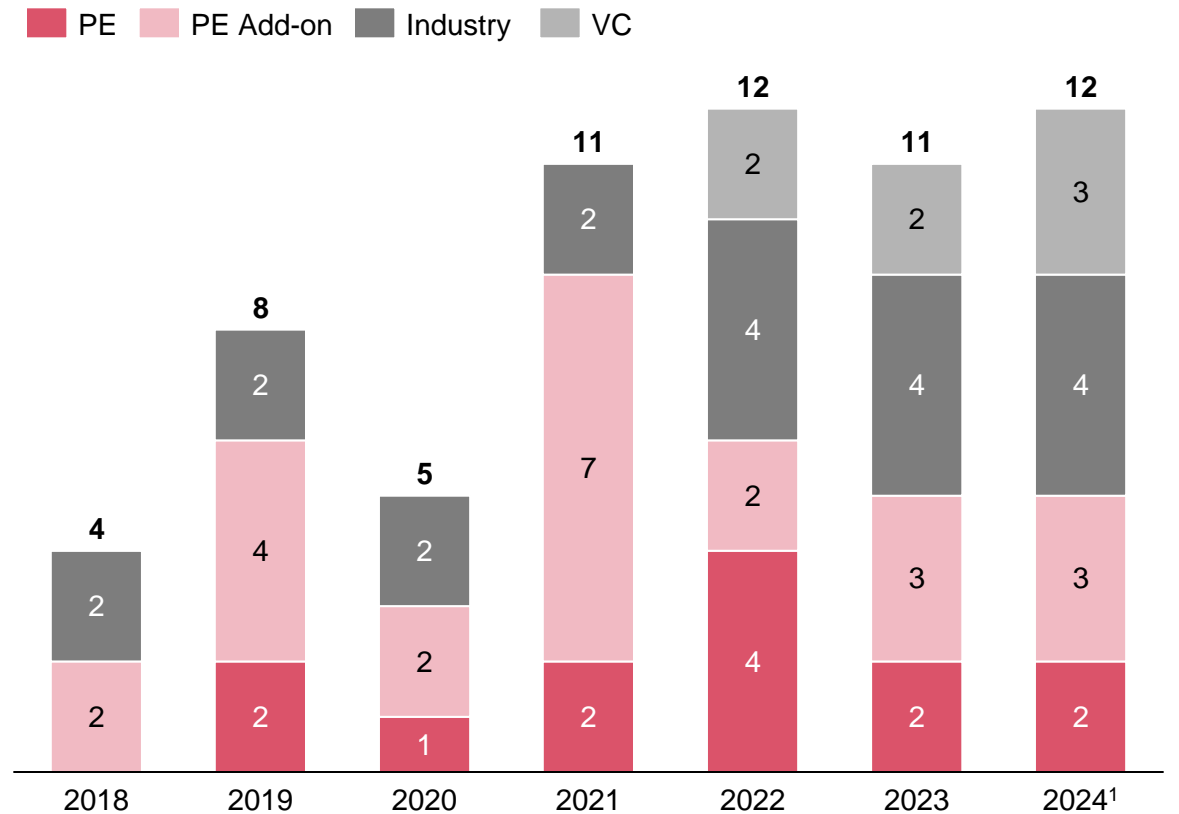
Growth in global maritime software transactions since 2018 – high activity from PE both through stand-alone and add-on investments

Maritime software transaction overview, global, 2018-2024

Number of transactions by target segment, 2018-YTD 2024



Number of transactions per year, 2018-2024

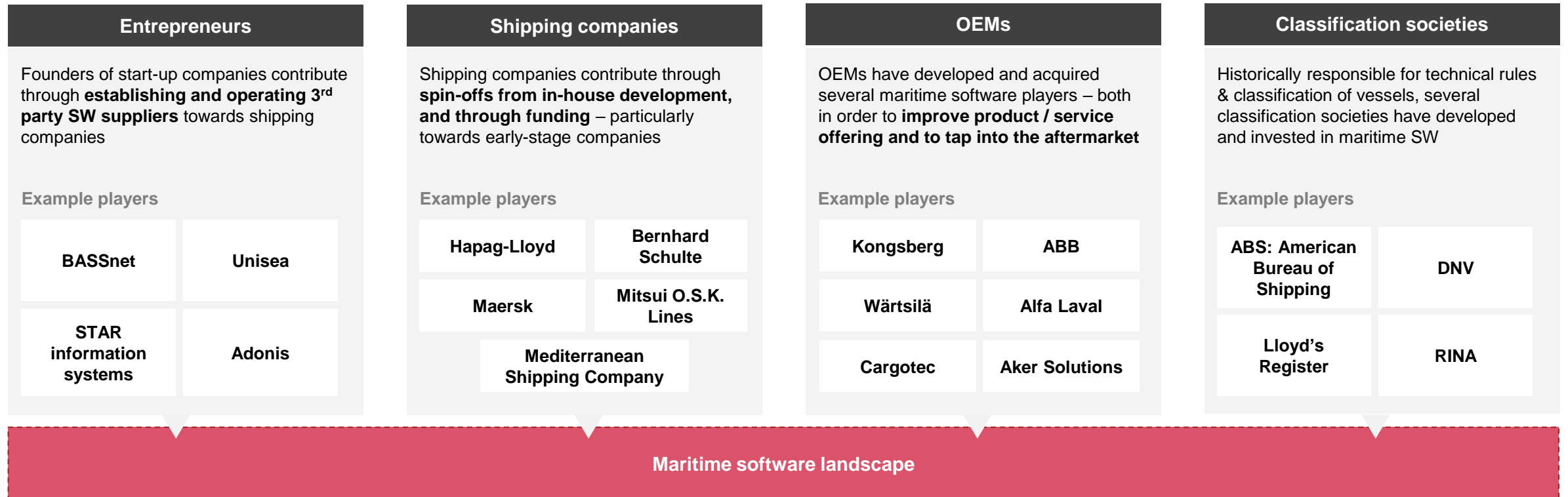


Market and value creation opportunities



Entrepreneurs, shipping companies, classification societies and OEMs are the main players in the maritime software landscape

Main groups of companies operating in the maritime software landscape



Growing software market to support the maritime digitalization

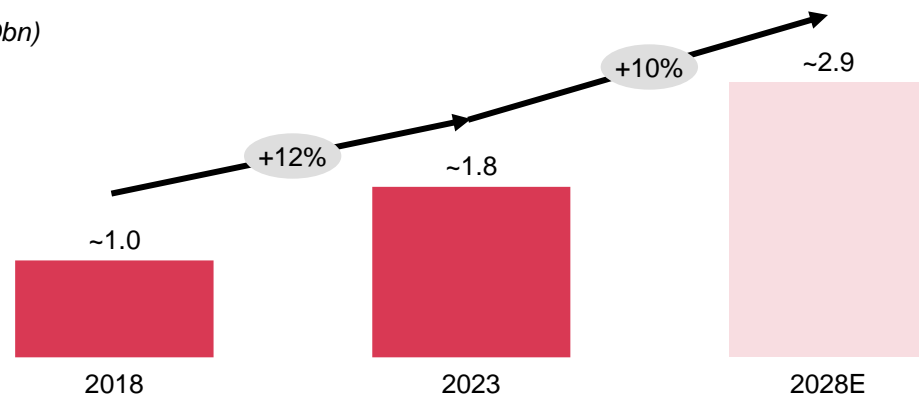
The shipping industry is facing pressure from existing market trends and value chain inefficiencies, driving a need for innovative maritime software solutions

The current maritime software market size is USD ~1.8bn, and projected to grow ~10% p.a. towards 2028, with higher growth rates in specific segments. Recent deal activity has been high, however the market remains highly fragmented in most segments with a strong consolidation opportunity.

This report explores how digitalization of the maritime industry is leading to an array of new software providers and how shipping companies and investors can take part in the value creation


Development of the global maritime software market 2018-2028e

(USDbn)



The maritime software space is still highly fragmented with many attractive companies and new innovative solutions

Overview of selected players within each market segment

 Norway based

Commercial voyage and cargo mgmt.		Navigation, fleet tracking and fuel perf.		Maintenance & operations		HSEQ & admin		
Pre-fixture chartering		Voyage & route optimization		Maintenance & procurement		HSEQ	Crew mgmt. & HR	
Veson Nautical	Marcura	StormGeo	OneOcean	BASSnet	MariApps	Unisea	OTG ¹ (Compas)	
Dataloy	AXS Marine	NAVTOR	Voyager Worldwide ²	Tero Marine	STAR	OneOcean	Mintra	
Cargo data and trade intelligence		ZeroNorth	Optimum Voyage	Sertica	HanseaticSoft	BASSnet	STAR	
KPLER	Vortexa	Fuel performance		SpecTec	Danaos	Premas	Adonis	
Xeneta	Sea.Live	Fleet tracking		Drydocks & technical projects		Finance & controlling		
Bunker management		ZeroNorth	NAVTOR	Vesselman	Maindeck	Shipnet	OTG ¹ (Seagull + Videotel)	
BunkerMetric	Post-fixture voyage reporting	Danelec	Telemar	Refman	DockPlan	Fortune	Trainor	
ZeroNorth	Diabos	Wärtsila	Vissim					
Data & analytics	Market data & platforms		Fleet performance mgmt.		Advanced analytics		ESG	
	Lloyd's List	IHS Markit	Kongsberg Digital ³	StormGeo	Cognite	Arundo	Metizoft	Position Green
Connectivity	Satellite services			Network, communication and IoT infrastructure				
	Marlink	Inmarsat	Telenor Maritime	Dualog	RaaLabs	Danelec		

Attractive value proposition and growth prospects have driven strong interest from financial sponsors and industry players

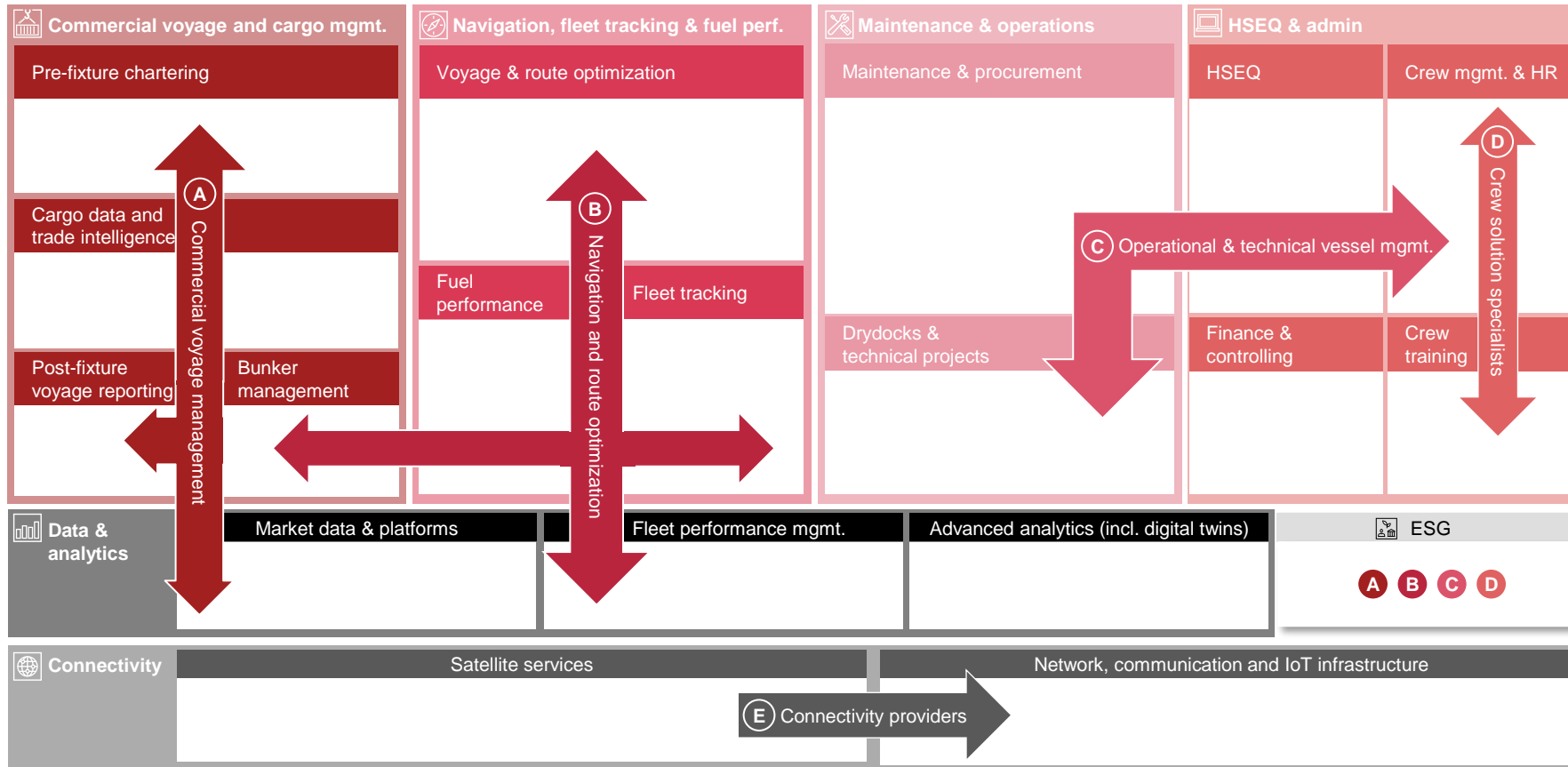
Market fundamentals and deal activity by maritime software segment

Software segment	Estimated metrics for the global market			Key insight
	'23-'25E CAGR	Market size, 2023, USDbn	Deal activity	
 Commercial voyage and cargo mgmt.	10-15%	150-200m		<ul style="list-style-type: none"> Segment relatively fragmented with high level of innovation More data and new technologies enable better solutions and data-driven commercial decision-making
 Navigation, fleet tracking and fuel performance	8-10%	~400m		<ul style="list-style-type: none"> Large and competitive software segment with 3-4 established players with robust financials High deal activity with strong interest from both OEM's and PEs
 Maintenance & operations	~10%	~250m		<ul style="list-style-type: none"> Planned maintenance (PMS) with high adoption driven by regulations – transition to cloud-based solutions Software for larger technical projects (e.g. dry-dockings) with lower adoption and high growth
 HSEQ, crew & administration	~8-10% ¹	400-500m		<ul style="list-style-type: none"> Strong outlook in HSEQ and Crew mgmt. driven by focus on safety and emissions, coupled with new innovative solutions E-learning highly consolidated market with OTG as main player
 Data and analytics	~20+%	150-200m		<ul style="list-style-type: none"> High growth segment, with significant R&D required to succeed Industry working to increase scale and profitability Digital twins and performance analytics likely to become critical part of the future maritime ecosystem
 Connectivity	~5+%	300-400m		<ul style="list-style-type: none"> Dominated by larger satellite providers with modest growth – Positive sentiment and improving vessel connectivity at sea Increase in emergence of smaller network, communication and IoT infrastructure providers with higher growth rates

We observe several attractive ways-to-play in the maritime software market across the various segments

Ways-to-play in maritime software

Software segments and key ways to play


























Rationales for ways to play

- A Commercial voyage management**
 - All modules typically used by the same company – i.e. the cargo company – this allows for one-stop shop offering and sales & ops. synergies
- B Navigation and route optimization**
 - Broad data (e.g. weather and fuel) can be applied to route planning and vessel ops. and improve vessel & fleet performance
- C Operational and technical vessel mgmt.**
 - Maintenance, HSEQ and admin are all used by technical staff on vessels and typically bought by the same department
- D Crew solution specialists**
 - Vessel crew certifications (training) need to be accounted for during crewing
 - Learning / qualifications are typically overseen by the same employees
- E Connectivity providers**
 - Delivery of connectivity both to the vessel and through solutions within vessel results in sales synergies and higher revenue per vessel

There are several strategic considerations in order to maximise value creation

Value creation levers for maritime software companies

Value creation area	Description	Value creation levers
 Positioning	Define a clear strategic position to deliver on anticipated scale-up and leverage market opportunities	 Niche offering  One-stop-shop
 Adoption	Drive adoption among customers through showing the value of using maritime software and targeted sales efforts	 Marketing and client referrals  Targeted, efficient sales model  Customer closeness
 Modularization	Develop modules in order to keep up with customer needs through vertical and core segment expansion – <i>organic and M&A</i>	 Functionality improvement  Vertical expansion  Segment expansion
 User-adaptive interface	Create user-adaptive interfaces to tailor the experience to each user's needs and preferences	 User-friendly UX  Targeted integrations  Active use of customer feedback
 Scalability	Efficient scalability from modular and modern architecture with a prioritized product roadmap	 Modern, cloud-based architecture  CAC ¹ efficiency  Defined product roadmap
 Go-to-market	Develop a clear go-to-market model that builds on the company's strengths to ensure successful market expansion	 Geographical expansion  Customer expansion  Product expansion

Our team brings a broad range of relevant expertise towards Maritime Software

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Strategy& Maritime centres of excellence

Extensive experience within shipping and maritime technology from offices in Norway, Finland, the Netherlands, Singapore, Japan, Korea, Middle East and the US



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