



WHITE PAPER

This WHITE PAPER discusses key challenges faced by shipping companies around the world in the performance management of their fleets.

It includes an insight derived from a deep-dive case study of the operational performance of a leading tanker company striving to enhance their productivity. The company had struggled to achieve the desired results due to lack of visibility, unreliable and inconsistent data reporting and processing mechanisms.

ShipIn offers a new way to manage your fleet by providing real-time visibility, actionable insights, and seamless collaboration between ship and shore that supports continuous process improvement, reduces unplanned costs and improves asset utilization.

Study reveals \$400,000 annual gains per vessel by deploying Visual Fleet Management tools

THE CHALLENGE

Shipping companies have always faced a unique challenge: they must optimize operations for a remote and disconnected asset halfway around the world. Owners and operators are unable to collaborate freely with their vessels, and do not benefit from real-time intelligence that shore-based industries take for granted.



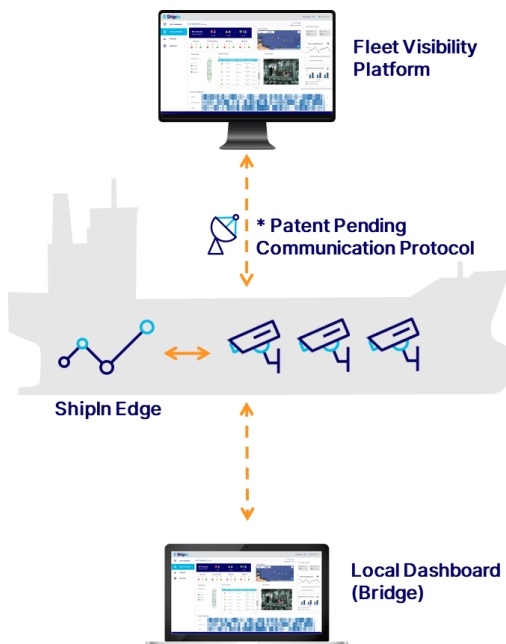
Data from vessels is often late, inconsistent and lacks actionable insights that could improve performance during sea voyages and in-port operations. In the absence of accurate and timely information, profitability is dependent on external market conditions, rather than internal process optimization and revenue growth.

Furthermore, larger vessels, reduced crew sizes, and increasing regulatory requirements have significantly increased workload and stress on already fatigued crews. Ship and shore management often struggle to get an objective measure of underway safety practices, and attribute human error to as many as 96% of incidents at sea. However, seafarer's actions are rarely malicious and, with full insight and improved data, mistakes can often be reattributed to conditions, system designs, protocols, and processes. Today, superintendents and fleet directors are still unable to properly assist seafarers in identifying hazards and removing obstacles, and often lack sufficient information on root-causes to improve processes and prevent future incidents.



How much revenue do ship owners and operators leave on the table because they lack real-time visibility to onboard fleet operations?
How many incidents and resulting financial losses could be saved with advanced and real-time hazard detections?

THE STUDY



ShipIn teamed up with a leading chemical tanker company to conduct a comprehensive study of their operational performance. The tanker company evaluated the economic benefits of improved, real-time visibility through an enhanced, collaborative visual analytics platform.

The study was conducted in partnership with the senior management of the tanker company. It included a series of interviews with key staff, an in-depth analysis of the last five years' performance data of its 30 vessels, a detailed review of investigation reports, operating expenses, and operational practices. Additionally, video footage of cargo and engine room operations was jointly reviewed to find commonalities or differences between vessel operations.

Evaluation Summary

EVALUATION AREA	%	TIME SAVED (Days)	SAVINGS (\$USD'000)	TIME SAVED (Days)	SAVINGS (\$USD'000)	
Reducing Incidents		PER VESSEL PER YEAR		FLEET PER YEAR		
	Reduced financial impact	40%		\$40.0	\$1,200	
	Reduced Technical Downtime	1%	3.7	\$54.8	109.5	\$1,643
	Reduced Insurance Premiums (Improved loss ratio)	5%		\$6.0	\$180	
			3.7	\$100.7	109.5	\$3,022
Cargo Ops Efficiency						
Before & After Cargo Ops (1.5 hrs per Cargo Ops)	6%	3.0	\$45.0	90.0	\$1,350	
Un reported Stoppages (2hrs per Cargo Ops)	8%	4.0	\$60.0	120.0	\$1,800	
Tank Cleaning (12hrs per operation)	17%	6.0	\$90.0	180.0	\$2,700	
Reduce Cargo Superintendents			\$10.0		\$300	
		13.0	\$205.0	390.0	\$6,150	
Commercial Acceptance						
Improvement in average TCE	1.5%		\$82.1		\$2,464	
Due to improved vetting, Safety records, compliance, maintenance standards; and reduced number of claims, violation, and incidents.			\$82.1		\$2,464	
Reduction in Overhead Cost						
Reduce Technical Staff			\$10.0		\$300	
			\$10.0		\$300	
ESTIMATED ECONOMIC BENFIT						
		16.7	\$397.9	499.5	\$11,936	

Note: An average of the last five years' KPIs was used to normalize irregularities.

Fleet
Economic Benefit
\$12 Million

Fleet On-Hire Gain
500 days



ADD
\$12M
PER YEAR TO
THEIR EARNINGS

THE FINDINGS

The Shipln assessment revealed significant room for financial improvement to the company's top and bottom lines. In total, the study estimated an annual economic benefit of \$400,000 per vessel. Extrapolated across a 30 vessel fleet, the company stands to **add \$12,000,000 per year to their earnings** using Shipln's Visual Fleet Management platform.

The analysis showed significant opportunities for improved financial performance across several key areas of **vessel operations**:

CARGO OPERATIONS



REDUCED TURN AROUND TIME

Several inconsistencies in port operations that were previously unreported and could not be deduced by ship logs or statements of facts alone were identified. Routine activities including crew briefings, line handling, and pre-staging equipment for cargo operations added up. The best performing vessels turned around cargo 1.5 hours faster than their sister vessels with similar vessel and cargo configurations. With previously unnoticed best practices replicated across the fleet, yielding 3 extra days at sea every year, per vessel.



UNPLANNED STOPPAGES

Many vessels had unplanned stoppages during cargo operations that went unreported. The team assessed that, had the ship's superintendent been aware of the events in real-time, shore side intervention could have saved almost 4 days of stoppages for each vessel.



TANK CLEANINGS

The study found that the company struggled with conducting routine tank cleanings efficiently. Length of operations between like-build sister vessels carrying similar cargo varied significantly, and the company would routinely fly cargo superintendents from their shore office to oversee operations or verify proper completion prior to third party inspection.

The company assessed that the above efficiency gains, when extrapolated across the number of cargo operations conducted per vessel each year, would result in an additional 13 days of sea time per vessel. At a modest TCE of \$15,000 per day, they stood to add \$200,000 per vessel per year, and benefit of \$6,150,000 to the company's bottom line.

INCIDENT REDUCTION

The study grouped incidents into three major categories for analysis:



MAINTENANCE

More than 50% of machinery-related incidents were attributable, at least in part, to a lack of compliance with basic maintenance routines. Although maintenance was being logged as completed in their PMS system, Shipln's system validated that many basic procedures were not occurring at the frequency, or to the quality level expected by company policy. Had the company or ships' master been able to verify proper completion of maintenance, the company estimated significant savings in unplanned repair costs, off-hire days and overall extended vessel life.



SAFETY AND COMPLIANCE

Shipln discovered numerous safety incidents related to non-conformities. The incidents, many of which would have been prevented or mitigated had the affected crew members been wearing PPE in accordance with company policy, cost the fleet hundreds of thousands of dollars.

Although not all incidents can be attributed to PPE non-compliance, the study revealed previously unseeable trends in compliance and adherence to safety routines that were indicative of onboard safety culture. Early identification of this trend and culture would have given the master and shore personnel the opportunity to course correct prior to catastrophic loss and injury.



SECURITY

Acts of piracy, stowaways and drug smuggling are difficult to control, but often affect a ship's schedule and result in revenue losses to the shipowners. In this case, the company had several occurrences where external personnel had stolen equipment, illegally boarded the vessel, or hidden drugs on board, resulting in significant costs to the owner. Shipln's system can identify anomalous activity, malicious vessels alongside and monitor ingress/egress of gangways to provide additional protection against bad actors.

ADDITIONAL FINDINGS

Other positive externalities of Visual Fleet Management were identified:



VETTING AND REPUTATION

The company assessed that the quantifiable reduction in safety incidents and unplanned mechanical breakdowns would directly affect their commercial acceptance and have a positive influence on their daily TCE in the future.



INSURANCE

During annual insurance review, the company was able to demonstrate to their P&I club industry leading advanced methods to identify hazards, remove obstacles, and collaborate with their vessels in real-time. The insurer agreed that this would reduce their overall loss ratio and granted a reduction in their premium as a result.

IMPLICATIONS

Operational efficiency has been, and will continue to be a perennial differentiator for ship owners and operators. In both up and down years, shipping companies stand to significantly increase margins, offer higher quality service to their charterers, and improve the working environment for their seafarers by employing Visual Fleet Management practices.

To see how visual analytics can improve your fleet's performance, [click here to schedule a live demonstration.](#)

