



White Paper

IN-PORT DETENTIONS

The costs and implications for an ageing fleet
- and how to avoid them





Metkel Yohannes
Chief Portfolio Officer, Survitec

Over the last five years (2021-25), across all port inspection MoU (Memorandum of Understanding) regimes, the number of ship inspections has held steady at around 75,000 globally each year yet the number of detentions has increased significantly, by around 70%.

Even the shortest detention carries significant cost. Not only do you have the business-as-usual operational, crew and berth costs, but now you have a vessel that isn't going anywhere and you're paying on an unplanned basis to fix faults, obtain parts, upgrade documentation: whatever is needed to get out of detention.

In addition to the costs of non-availability, you have longer-term implications from an enhanced risk profile (vessel and operator), reputational damage with charterers from having a record of detention, higher insurance risk rating and premiums – and likely further PSC targeting from the resulting risk profile.

People in our industry used to say detentions happen most to 'problem' ships. This is no longer true: any vessel of any type or age can face a detention. As the SAFETY4SEA PSC Annual Review for 2025 reports, only half of inspections are completed without deficiencies being identified and "one in seven ocean-going commercial ships are projected to face detention at least once in the coming 36 months so detentions are becoming statistically normal."

The increase in detentions is also no surprise when you consider that the main reasons for inspection failures have stayed the same:

- **ISM (International Safety Management code) failures**
- **Fire safety (SOLAS II-2),**
- **Lifesaving appliances (SOLAS III): lifeboats, liferafts, lifejackets, immersion suits**

which basically means it is much easier for inspectors to know where to look...

Yet, with the same core deficiencies consistently reported across all types of vessel, it should be easier than ever for owners and operators to be (and stay) compliant and safe, understanding what the inspections will check and avoiding the risk of detention.

So, given that detentions are in fact increasing, what is happening?



Deficiencies in fire safety and lifesaving appliances are a particular area of concern to Survitec. As a fire safety expert and OEM, we are often called out to rectify faults caused by inadequate or poor-quality servicing and repairs, too often at the point that the system fails or the situation has become critical. In an earlier White Paper, [Why are the fires not going out?](#) (Survitec, 2024), we explored the growing risks associated with variability in compliance and inspection outcomes across the industry and this has been a strong focus for our teams over many years.

In this White Paper, our technical team looks in more depth at the deficiencies that trigger detentions – from failures that are serious enough on their own to merit detention to the multiple smaller issues that cumulatively affect the overall safety and risk profile of a vessel. Our analysis also recognises the increasing emphasis on ‘soft failures’ such as procedural non-compliance and lack of evidence of drills or maintenance, both of which are influencers and multipliers of the detention risk.

We also assess the age factor, where ships 15-20+ years old carry higher detention risks. Ship owners want to

maintain their fleets for longer – especially at a time of geopolitical turbulence and global uncertainty, new regulations on emissions and fuel efficiency and the impact of tariffs and other trade disruptions to consider. With proactive and longer-term planning, there are safe and compliant ways to maximise the earning potential of an ageing fleet, something our teams regularly advise on.

Given the wide-ranging and long-term impacts of a port detention, the commercial argument is simple and compelling: **PSC detention should no longer be considered as an unlikely or rare event, but as a predictable financial liability that can be quantified, modelled and avoided.**

Investing in prevention is materially cheaper than absorbing even one detention.

Metkel Yohannes
Chief Portfolio Officer, Survitec

Key trends 2021-2025

Tokyo MoU: records the highest number of inspections globally. Detention numbers have more than doubled, from 526 in 2021 to a peak of 1,255 in 2025

Paris MoU: Detention rate has remained persistently high at around 4%, consistently above the global average

Black Sea MoU: highest rate of detentions relative to inspections (6.78% in 2025). The region attracts a high volume of general cargo and bulk carrier vessels, many over 25 years old.

Leading detention categories

25-35% of all deficiencies are safety and survival-related
30-40% of detainable deficiencies involve safety systems

Vessels most at risk

Bulk carriers, general cargo, container ships and tankers dominate detention statistics

The age factor

The strongest predictor of detention across all MoUs and classification reports

15 years: significantly higher detention risk
20 years: highest risk category

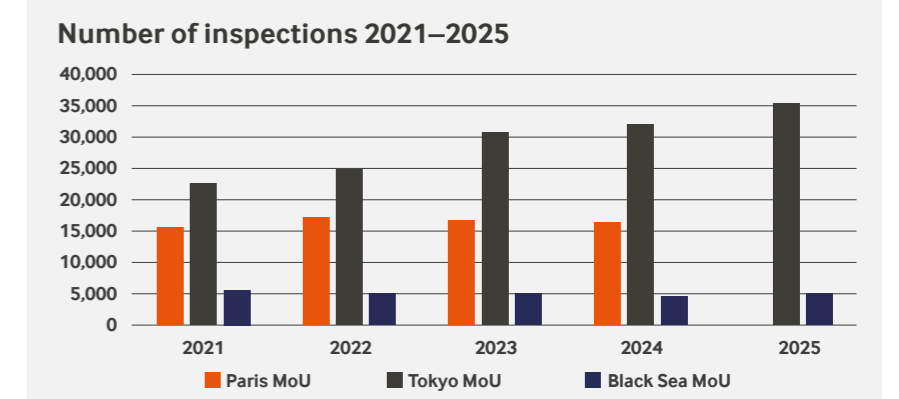
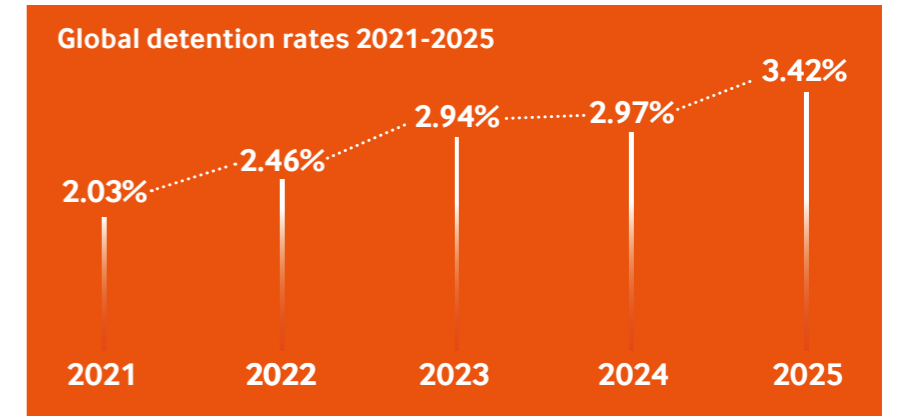
Typical length of detention

Short: 1-3 days
documentation or minor deficiencies

Moderate: 3-7 days
Severe/systemic: 7 days+
structural, ISM, machinery issues

Global PSC Detentions - Overview

Global inspections have plateaued at around 75,000 per year since 2023, while detention outcomes have worsened. Tokyo and Paris MoUs cover the busiest routes and account for over 80% of all PSC inspections and detentions.



Segment	Inspections	Detentions	Most common detainable deficiency	Deficiency area
Bulk carrier	13,221	369	Fixed fire extinguishing installation (07109)	Fire safety
General cargo	7,063	457	Fire detection and alarm system (07106)	Fire safety
Container	5,668	133	Fixed fire extinguishing installation (07109)	Life saving appliances
Tanker	5,603	127	Lifeboats (11101)	Fire safety
LPG	755	38	Fixed fire extinguishing installation (07109)	Fire safety
LNG	311	4	Fixed fire extinguishing installation (07109)	Fire safety
Other	3,577	98	Lifeboats (11101)	Life saving appliances

Table 1: The most common detainable deficiencies found over a 6-month period in 2025, as reported by Risk4Sea.



Jan-Oskar Lid
Technical Sales and Support
Manager, Survitec

PSC detentions: The most detainable categories and trends

With port detentions increasing at an unprecedented rate in the last five years, key trends we are seeing include:

Major safety deficiencies driving detentions. Fire safety and Life-Saving Appliances (LSA) remain high-frequency, high-impact considerations, impacting the core safety profile of the vessel and being seen as indicating ongoing maintenance and training deficiencies.

A shift in focus towards “systemic failure”. With the ISM code increasingly central in safety management, the PSC appears to be moving from defect-based to management-based enforcement.

The link between LSA deficiencies and ISM failures. Most LSA detentions involve poor maintenance systems, lack of inspection routines and inadequate crew training. The detention risk is highest when LSA defects coexist with a poor management system, summarised as:

- Lifeboats** = highest detention severity
- Liferafts** = highest inspection frequency
- ISM failure** = strongest multiplier

Looking at the range of deficiencies that trigger detention, it is clear that most detentions are not imposed following sudden, acute or catastrophic failures, but are a result of systemic management failures that were detectable and preventable. The type and nature of the most frequent issues are shown in overview below with some examples:

ISM (International Safety Management) code failures	The most frequent detainable category globally and a key driver of detention length as ISM-related detentions tend to be longest. Typical failures include: <ul style="list-style-type: none"> ■ Poor maintenance systems ■ Incomplete procedures ■ Lack of crew familiarity / implementation gaps
Fire safety and life-saving appliances (LSA)	Common detention triggers, consistently among the top PSC categories across MoU datasets, with key issues focused on survival and safety: <ul style="list-style-type: none"> ■ Inoperable fire dampers, extinguishers ■ Lifeboat defects and/or launching appliance issues
Structural / machinery deficiencies	“Hard deficiencies” that almost always trigger detention if unresolved, such as: <ul style="list-style-type: none"> ■ Hull integrity issues ■ Engine failures or critical alarms ■ Oil leaks / MARPOL violations
Documentation and certification failures	<ul style="list-style-type: none"> ■ Expired statutory certificates ■ Incorrect logs (ORB, SMS records) ■ Crew certification issues
Emerging trend: “soft failures”	<ul style="list-style-type: none"> ■ Procedural non-compliance ■ Lack of evidence of drills, maintenance, manuals and spares

Key areas of safety compliance for owners and operators

Unsurprisingly, deficiencies in life-saving appliances – PSC code 11101 – are a major trigger for detention, given the dangers from faults that can affect a vessel’s ability to abandon ship safely.

Liferafts are a “low-frequency, high-consequence” deficiency, not the most common defect but

- regularly identified and highly visible to PSC inspectors
- directly linked to SOLAS compliance
- easy to verify (certificates, HRU, installation)
- rarely causes detention alone but frequently cited as supporting evidence of poor maintenance culture and therefore strong contributor to detention decisions.

Similarly, deficiencies in fire safety are a major cause of detentions under PSC code 07109, a particularly high-risk category given the risks to crew safety and survival.

Fundamentally, the more issues found, the greater the risks and the likelihood of detention.

Keeping up to date with requirements

Inspections are mandated to identify and prevent many of the deficiencies that may lead to detention, however, inspection outcomes vary across the market. As discussed in our 2024 White Paper on fire safety, procurement decisions are often influenced by cost, particularly where multiple providers hold similar approvals and certifications and there are no quality benchmarks or training standards in place to help determine competencies. At the same time, broader industry pressures, including constrained maintenance budgets, reduced service windows, skills shortages and the increasing complexity of regulatory compliance, are contributing to declining standards in routine safety management and maintenance discipline.

Training is particularly important. As our infographic clearly shows (Pages 8-9), safety requirements and legislation change and evolve over the lifecycle of a ship (35+ years) and requirements may also vary across vessel types, brands, class and flag states. Without ongoing investment in training, it can be a challenge to track and implement all these changes to maintain compliance.

Reducing your risk and maintaining compliance

Rigorous inspections by authorised, knowledgeable providers thereby help to mitigate the risk of non-compliance and to manage the wear and tear on safety-critical equipment, making sure it can be relied on to work when required. This is a key role that serious service providers, such as Survitec, take for their customers to help them manage risk and keep their vessels operating safely.

PSC code 11101 Lifesaving appliances (LSA) deficiencies leading to detention

- 10-12% of all deficiencies
- 8-15% of detainable deficiencies

Detention occurs primarily if:

- survival capacity is reduced
- equipment cannot be launched
- equipment is unsafe to use
- crew cannot operate it

PSC code 07109 Fire safety deficiencies leading to detention

- 10-15% of all deficiencies
- 12-20% of detainable deficiencies

Detention typically occurs when:

- system is non-functional
- system is unreliable in an emergency
- defects indicate systemic management failure

“**Issues with corrosion and degraded components rarely arise suddenly; they reflect the cumulative impact of ageing assets, constrained maintenance windows, competing operational priorities and wider industry pressures, including crew shortages and training.**”

Viktor Todorov
Global Operations Manager - Fire
Survitec

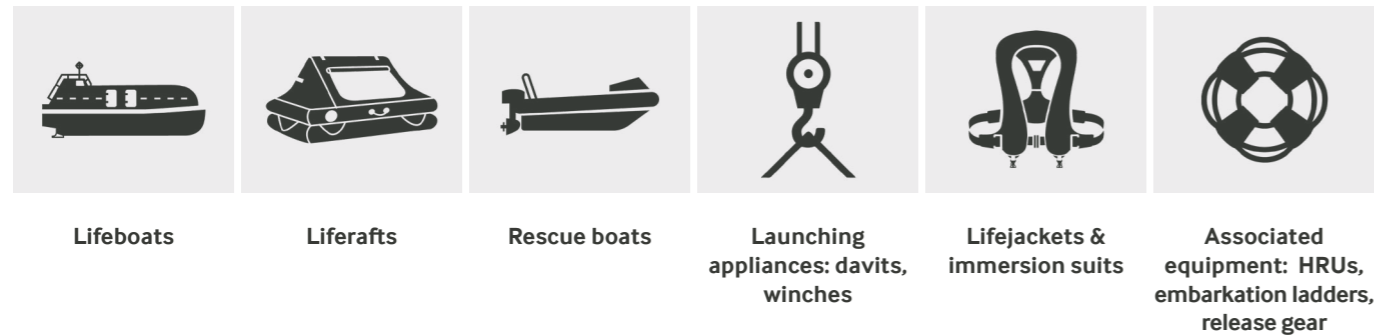
THE COMPLIANCE CHALLENGE

Balancing new safety mandates with everyday operations: How more stringent safety requirements and new regulatory guidance challenge ship operators to maintain compliance over the lifecycle of a ship.



Focus on life-saving appliances (LSA)

Life-saving appliances under PSC Code 11101



Key test inspectors apply:

Can the crew abandon ship safely and effectively?

Top causes of PSC detentions

PSC deficiency code 11101 Life-saving appliances (LSA) under SOLAS Chapter III is one of the most consistently detention-triggering categories, especially when deficiencies affect the vessel's ability to abandon ship safely.

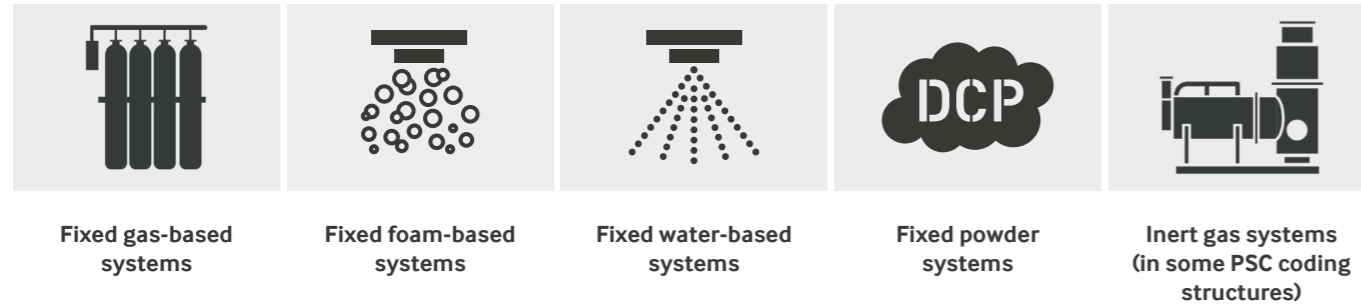
Looking at the main causes of detention for LSA, there is strong alignment across Paris MoU, Tokyo MoU, AMSA, and classification society analyses such as DNV and the American Bureau of Shipping on the priority issues:

- The most critical issue is lifeboats not being operational or not ready for use, the PSC response being that if the lifeboat cannot be launched and operated, the vessel is deemed unsafe.
- **Lifeboat release gear.** Historically, release gear failures have been a major safety concern for the industry and an area of sustained regulatory focus. Action taken to identify and replace non-compliant systems has reduced incidents and mitigated risk; evidence of inadequate maintenance of release gear, hook foundations and associated operating systems may result in detention.
- High likelihood of detentions if **davits and launching appliances are defective** – winch brakes slipping, davit structure corroded, fall wires worn or needing renewal, limit switches not working – meaning the boat cannot be launched or retrieved safely.
- Common **liferaft deficiencies** include expired service certificates, HRU expired or incorrectly fitted, improper securing / not float-free, missing or damaged containers. There is also a cumulative impact: multiple non-compliant liferafts compromises survival capacity.
- **Insufficient or missing LSA equipment**
- **Embarkation arrangements not compliant;** examples of serious safety risk from embarkation ladders damaged or missing, unsafe embarkation platform, access to lifeboats obstructed: crew cannot board safely.
- **Maintenance and servicing failures:** a lack of annual servicing records, lifeboat/raft inspections being overdue and no evidence of operational testing – potentially also suggesting ISM deficiencies; on their own these concerns may not trigger detention but combined with other defects often will.
- **Crew unfamiliarity or drill failure,** with incorrect operation of release gear or crew unable to demonstrate launching procedure: risks in that equipment exists but is not usable in practice.
- **Immersion suits / lifejackets defective** or insufficient numbers on board.



Focus on fire safety

Fixed fire extinguishing installations under PSC Code 07109



Key test inspectors apply:

Is the vessel capable of controlling a major fire?

Top causes of PSC detentions for fire safety deficiencies

PSC deficiency code 07109 – “Fixed fire extinguishing installation” sits under SOLAS Chapter II (Fire Safety) and is one of the most detention-prone technical categories globally.

If a fixed fire extinguishing system fails, an engine room fire can lead to loss of the vessel and obviously crew safety is significantly compromised. Therefore, within PSC inspections, even a single serious defect can lead to detention.

Main causes of detention under 07109

- **CO₂ system not ready for immediate use:** this is the most critical issue and one of the most common detention triggers globally. As CO₂ is the primary engine room fire suppression system, if not operational this indicates a loss of critical fire protection. Typical deficiencies include CO₂ cylinders not fully charged, incorrect cylinder pressure, valves seized or inoperable and the release cabinet locked, obstructed, or inaccessible.
- **Release mechanism failures,** including remote release system not functioning, cables disconnected or corroded, pneumatic/electric release failure or manual backup release not working. The PSC interpretation is if the system cannot be activated reliably, it is considered non-functional.
- **Piping leakage or isolation, or corroded pipework;** risk being that CO₂ may not reach protected space and system effectiveness is compromised.
- **Safety interlocks not working;** this is critical as fire suppression depends on isolation of oxygen and fuel and without interlocks the system is unsafe or ineffective.
- **Alarm and warning system failures,** including no audible/visual alarm before CO₂ release, alarm not functioning in protected spaces or time delay system not working; all considered crew safety risk
- **Maintenance / certification gaps:** may not detain on their own but combined with technical faults are likely to result in detention. Frequently cited are: lack of servicing records, no evidence of testing, inspections overdue.
- **System isolation / modification;** examples including: system partially disabled, sections isolated without procedures, improvised repairs; considered systemic management failure.
- **Foam system failures;** issues include foam concentrate degraded or expired, incorrect foam type, foam pumps inoperable. High detention likelihood, especially on tankers / chemical carriers.
- **Water mist system faults:** these are less common but more on newer vessels, with issues including pump failure, blocked nozzles and control panel faults.



Assessing and avoiding your financial exposure from detentions

With the increasing percentage of port detentions resulting from PSC inspections, a detention can no longer be considered rare or unexpected. In fact, according to the SAFETY4SEA 2025 PSC Annual Review, more than one in seven ocean-going ships are projected to face detention at least once in 36 months – and more than 80% of ships detained within a 36-month window have only one detention, so they are not repeat offenders.

With this level of statistical likelihood, the main questions for owners and operators are:

“If a port detention is likely, what will it cost us if it happens and what will it cost to avoid it?”

There are many short and longer-term impacts of a detention, which bring both direct and indirect cost implications, including for example:

- Immediate loss of revenue with a ship in port while costs to maintain it and the crew continue
- Costs of rectifying deficiencies and extricating the vessel from detention
- Longer-term reputational and insurance impacts
- Increased risk profile leading to more stringent PSC inspections



Modelling the cost of detentions

There will of course be significant differences in the reasons for detention and therefore the length of time the vessel will be detained and the associated cost impacts, but there are some assumptions from global reports that you can use to model the impacts for your own operations. However you model the base detention and profit costs, it's clear that investing in a service and inspection solution that prevents the predicted level of one detention every 3 years will deliver significant ROI in respect of costs avoided.

Off-hire loss during detention (primary cost driver)

5 days × \$10k–\$18k

Port and operational costs

Even while detained:

- Berth dues / Port services / Agency fees

Repair and compliance costs

Highly variable depending on deficiency:

- Minor fixes: \$5k–\$20k
- ISM/system corrections: \$10k–\$50k
- Major repairs: \$50k–\$200k+

Insurance

Variable depending on vessel type, location, usage etc

Schedule disruption

Missed laycan / next fixture delay

- Potential renegotiation or penalties

Indirect commercial losses

Reputational / vetting impact

- Higher inspection frequency
- Charterer discounting future fixtures (Not always directly quantifiable, but real and compounding)

Core assumptions

20–40k DWT general cargo

Charter type: time charter

Daily hire rate: \$10k–\$18k

Detention duration:

3-7 days, base case 5

How do we support an ageing fleet at a time of increased maritime incidents and PSC detentions?

Certainly, the global fleet is ageing, with more owners delaying scrappage to keep vessels for longer and maximise the earning potential. In 2014, 36% of vessels were 25 years old; by 2024 this had risen to 44%.

Key drivers behind this growing trend

Maritime freight rates rose five-fold in 2024, a result of increased consumer activity, industrial disputes, extreme weather events and geopolitical impacts including congestion in the Red Sea and Panama Canal.

Key maritime routes being blocked or unsafe is an increasing risk factor. As the Allianz Safety & Shipping Review points out, even before the more recent impact on the Straits of Hormuz: “Strategic shipping routes and choke points are increasingly being politicised as geopolitical and regional tensions rise. Meanwhile, Arctic waters have become focal points of international tension, with countries seeking control over emerging trade routes as ice melts.”

New regulations on emissions and fuel efficiency: owners know they will need to invest in lower-emission fuels – biofuels, ammonia, methanol - but are reluctant to commit until there is more certainty on which to adopt.

Tariffs and associated trade disruption bring additional challenges and increase uncertainty. While tariffs imposed by the US administration were widely anticipated, many have changed—some several times—since their initial announcement. This lack of clarity has created significant pressure on supply chains, disrupted established trade routes, and reduced confidence in long-term forecasting across the global maritime sector.



Although decarbonization and digitalization are driving rapid transformations, geopolitical and economic shifts are introducing new uncertainties and leading to a range of side effects, most notably an increasingly ageing fleet.

Knut Ørbeck-Nilssen, CEO, DNV Maritime



Space in shipyards is limited and building costs are high, driving shipowners to focus on maintaining existing assets and to upgrade/ retrofit assets instead of replacing.

The consequences of this worldwide trend are highlighted in the DNV report Maritime Safety Trends 2014-2024, which reports:

- Maritime casualties rose by 15% in 2024
- While incidents declined by 5% in the period 2014-2018, the figure has increased every year since
- Between 2018-2024, the number of incidents grew by 42%, while the number of vessels in the global fleet increased by just 10%
- Over half (52%) of all incidents in 2024 were attributable to vessels aged 20 years of age or older and 41% to vessels over 25 years old

Moreover, this is all at a time when we are seeing a 70% rise in the number of port detentions following PSC inspections in the last five years.

With a clear correlation between an ageing global fleet, an increase in safety incidents, and an increase in detentions there are significant consequences for the industry.

Types of incidents and deficiencies in an ageing fleet

According to the Allianz Safety & Shipping Review 2025, machinery damage/failure accounted for well over half of all shipping incidents globally (1,860) in 2024, followed by vessel collision (251) and fire/explosion. There were 250 fire incidents during 2024, up by 20% year-on-year, the highest total for a decade, and fire/explosion is the second top cause of total losses (16%) over the past 10 years.

Against this backdrop, the critical question is not simply why incidents occur, but how vessel condition, maintenance discipline and emergency readiness influence the severity of an incident. The case studies that follow highlight some of the most common deficiencies we find on board during inspections. In many cases, these are not isolated faults, but indicators of wider weaknesses that have developed over time.

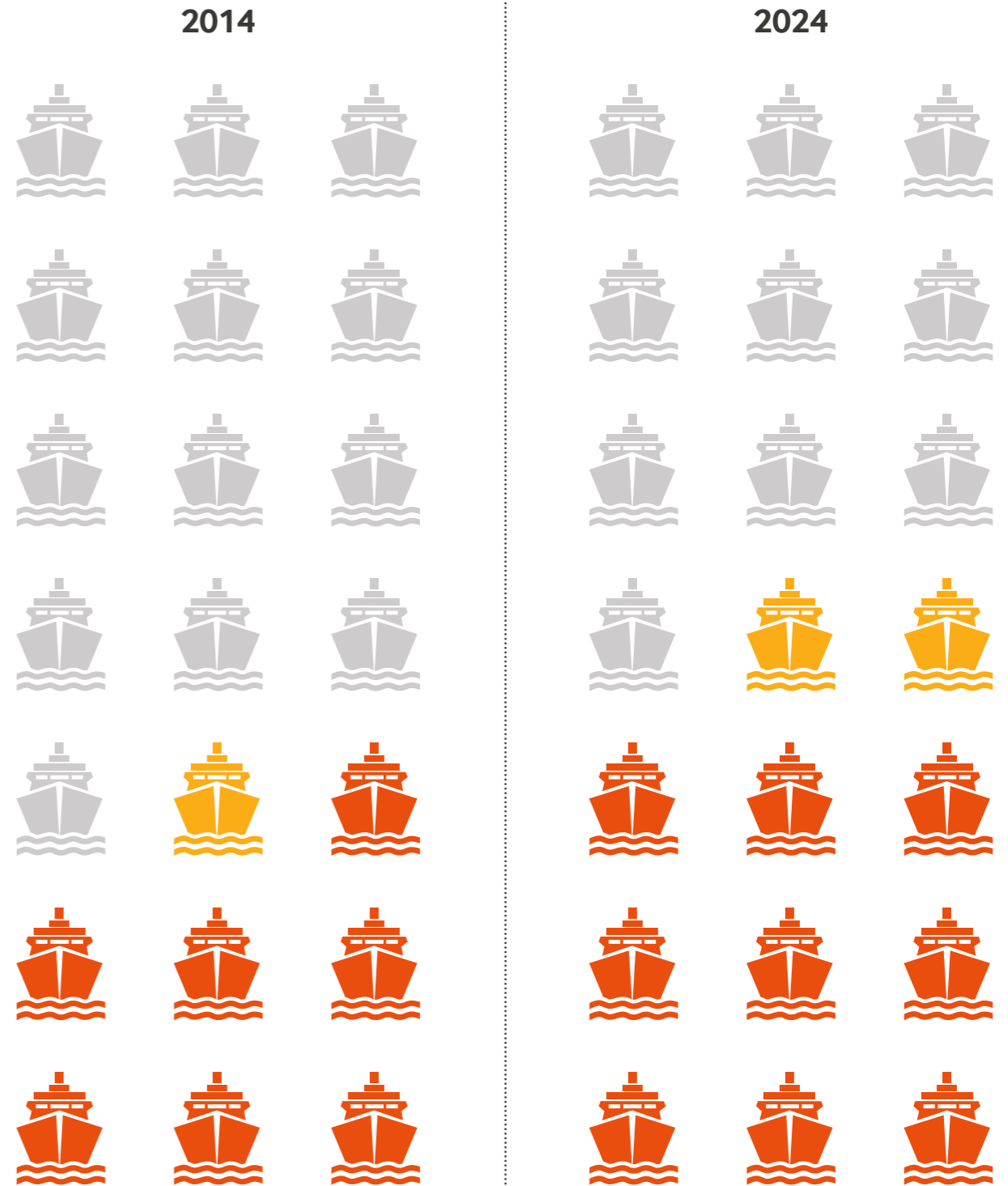
The average age of a vessel involved in a total loss over the past 10 years is 29

Allianz Safety and Shipping Review 2025



LOOKING BEHIND THE STATISTICS

How the age profile of the global fleet has changed over 10 years



Case studies: Fire safety

CO₂ discharge pipework

CO₂ fixed fire extinguishing systems are a critical means of protecting enclosed, high-risk spaces such as engine rooms, cargo holds and pump rooms. Because system integrity is essential to both fire suppression performance and personnel safety, SOLAS and IMO requirements mandate defined inspection and maintenance procedures, including routine visual examination of cylinders, distribution pipework, valves and manifolds for signs of corrosion, leakage, mechanical damage or inadequate support. These images show advanced corrosion affecting CO₂ discharge pipework. In the left-hand image, loss of material integrity is clearly visible; in the right-hand image, wall thinning and structural weakening increase the risk of the pipe rupturing under discharge pressure. From a Port State Control perspective, defects of this kind contribute directly to detention under fire safety-related findings.



Fixed foam firefighting systems

Fixed foam firefighting systems are a primary fire protection measure for controlling flammable liquid fires involving oil, fuel and chemical cargoes and are therefore safety-critical on oil, chemical and product tankers. Their function is to form a stable foam blanket over the fuel surface, suppress vapour release, exclude oxygen and prevent re-ignition. To achieve this, the foam proportioning arrangement must deliver water and foam concentrate within the specified ratio. Under-proportioning reduces foam stability and firefighting effectiveness; over-proportioning may impair discharge characteristics and application performance.

Routine inspection and testing are essential to verify correct proportioning, maintain system integrity and identify deterioration within the concentrate, proportioner and distribution pipework. The photographs illustrate two common but significant defects: failure of diaphragms within the proportioning arrangement, and internal fouling or blockage within associated pipework. Diaphragm degradation, whether caused by fatigue or pressure imbalance, can result in dilution of the foam concentrate and incorrect proportioning. Over time, this may also contribute to contamination, crystallisation, restricted flow and unreliable discharge, materially reducing the system's ability to perform as intended in an emergency.

From a Port State Control perspective, defects of this nature may not always be identified during a routine visual inspection, particularly where the relevant components are internal and the system is not opened for detailed examination. However, where visible condition, test evidence, maintenance records or other indicators call into question the integrity of the foam concentrate, proportioning arrangement or distribution lines, the operational readiness of the installation may be challenged. On tankers, where deck foam systems form part of the vessel's principal fire-extinguishing capability, such concerns may increase the likelihood of a serious deficiency being recorded and, depending on the wider condition of the system and supporting evidence, may contribute to detention.



Case studies: Fire safety

Water mist valves and nozzles

Water mist is widely used as a first-response Local Application Fire-Fighting (LAFF) system because it can be discharged immediately within the protected space, without requiring prior evacuation. The system operates by forcing water through specialised nozzles to generate fine droplets of a controlled size so, to maintain performance, annual inspections must confirm that nozzles are clean and free from any obstructions that could impair droplet formation. These images show two common failure points: a corroded valve and a blocked nozzle. Corrosion can seize valve handles, jam internal mechanisms and obstruct ports, while nozzles that are blocked by rust, dust – or, as in this example, coats of paint – can prevent correct mist generation. In either case, the system will fail to discharge effectively when needed. For PSC inspectors, such defects are clear indicators of poor maintenance control and degraded emergency readiness.



Portable fire extinguishers

Portable fire extinguishers form part of the vessel's immediate first-response firefighting capability and must be maintained in a ready-for-use condition. These images show the internal condition of extinguishers, highlighting two serious but common maintenance deficiencies and illustrating how performance can deteriorate over time. In the left-hand image, advanced corrosion has affected the extinguisher body, raising concerns about structural integrity and the risk of rupture. In the right-hand image, the dry powder has compacted and solidified, meaning the extinguisher may not discharge as intended when operated. Defects of this kind directly undermine the reliability of first-response firefighting equipment. From a Port State Control perspective, extinguishers showing visible deterioration, loss of serviceability or evidence of poor maintenance are not minor defects; they may be treated as indicators of degraded fire readiness and wider maintenance control failures, particularly where multiple units are affected.

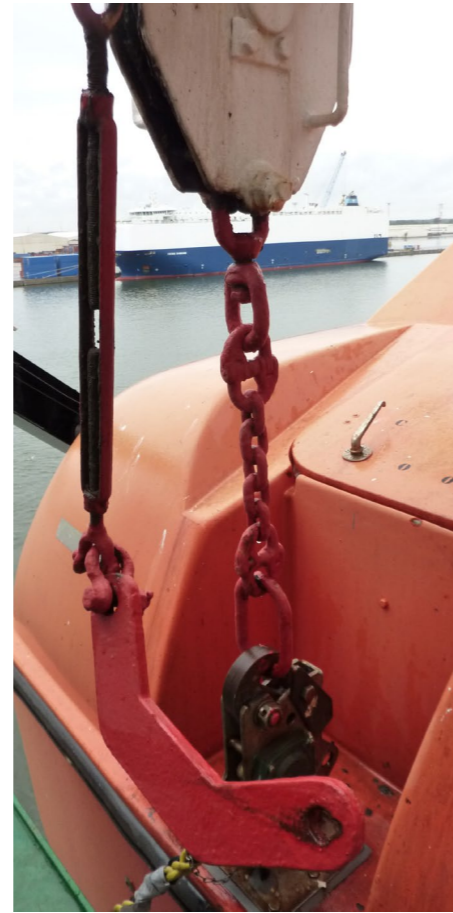


Case studies: Lifeboat safety

Davit suspension assemblies

Davit suspension assemblies form part of the lifeboat launching and recovery arrangement and are therefore safety-critical lifting components. However, these assemblies are frequently found heavily over-painted, contrary to manufacturer guidance, which can obscure corrosion, wear, cracking and other signs of deterioration, while also preventing effective verification of markings and certification. From a Port State Control perspective, lifting components whose condition cannot be properly assessed, or whose continued serviceability cannot be demonstrated, may be treated as unsafe or insufficiently maintained, particularly where visible corrosion, coating build-up or missing traceability raise doubt over their fitness for use.

In addition, while MSC.402(96) mandates the periodic renewal of fall wires and hooks, there is no equivalent mandatory replacement interval for the chain and link elements within the lifting assembly. As a result, these components may remain in service for 15–25 years with little or no intervention. This creates a recognised gap in lifecycle control for ageing lifeboat systems. As a member of ILAMA (International Lifesaving Appliance Manufacturer's Association), which has brought this matter to the attention of the IMO, Survitec is working to address this gap and recommends replacement at five-year intervals or periodic non-destructive testing (NDT) as a proactive risk-control measure.



Case studies: Lifeboat safety

Lifeboat air cylinders

Air cylinders installed within lifeboats are typically located in the lowest sections of the boat, often within bilge spaces where seawater ingress, trapped moisture and poor drainage create a highly corrosive environment. This makes them particularly vulnerable to corrosion of regulators, fittings and connections, as well as pitting and wall thinning of the cylinder body itself. If corrosion progresses unchecked, the result may be loss of pressure integrity or, in severe cases, rupture under service pressure. From a Port State Control perspective, pressure vessels and associated operating components showing visible corrosion, poor condition or inadequate maintenance history may be treated as evidence that the survival craft is not fully ready for use. In this context, what appears to be a localised corrosion issue can escalate into a wider finding of degraded lifeboat readiness and poor maintenance control.



Lifeboat release gear diaphragms

Lifeboat release gear hydrostatic diaphragms are among the most frequently overlooked components in ageing lifeboat systems, largely because they are difficult to access and time-consuming to replace. As a result, they may not be replaced as per OEM instructions during routine inspection and servicing, particularly where inspection scope is limited as a result of time and cost pressures. This creates a high-risk blind spot within the maintenance regime, because diaphragm deterioration is not always externally visible and failure is often sudden rather than progressive. In ageing fleets, where components may already be operating beyond their original service assumptions, this risk becomes more pronounced.



What's the optimum approach to supporting an ageing fleet in an environment of more stringent PSC inspections?

The key to mitigating risk and supporting older vessels effectively is having an in-depth understanding of how requirements change as the vessel ages, knowing from extensive experience how the ship structure and equipment should be maintained over time to stay compliant and safe.

Overall, while the industry's newer buzzword of 'generic compliance' may no longer be enough to meet the more stringent PSC requirements, the important focus for all ship owners and operators needs to be on continuing, rigorous, proactive – and documented – maintenance. It means continuous investment in crew training and in working with the right safety provider who does not just hand over an ultimately worthless certificate but will make sure that equipment is maintained and working as per standards and regulations.

Investing in rigorous, proactive maintenance and safety inspections by a trusted safety partner not only protects crews and vessel safety; it protects your bottom line against a predictable financial leakage, helping you derive maximum value from your fleet for the long term.



Choosing the right safety partner

While rigorous safety inspections, performed as per flag and class requirements, safeguard against faults and detentions, not all providers offer the same levels of expertise or service. Investing in a rigorous annual inspection can potentially save thousands in protecting against faults, delivering and maintaining compliance and keeping vessels out of detention – as well as protecting reputation and reducing risks particularly for insurance – but choosing the right safety partner is key.





In our White Paper from 2024 where we explored concerns about declining fire safety compliance, we also reported on evidence of a wide disparity in service quality between service providers. We continue to hear from our service technicians of the incorrect parts being used or poorly fitted, or the use of low-quality parts that deteriorate rapidly and fail. There are also examples where the paperwork will confirm that a service inspection has been carried out but the levels of wear and tear on the equipment will definitely suggest otherwise.

As a major provider of Survival Technology and inspections covering fire safety and lifeboats for an extensive range of vessels, our teams offer high-quality inspections of safety-critical equipment to protect against faults and failures. We clearly document all work in full with detailed reports and specific test references to the appropriate IMO requirements, making sure customers know exactly which checks have taken place.

As an OEM, we design/supply equipment to flag state and class requirements and participate in regulatory committees to track and monitor changes in requirements. We also invest in training. We have three training centres where we train our certified technicians on both our own and multi-brand equipment to the highest ISO standards. Refresher training is also delivered frequently, to maintain certification.

The benefits of longer-term service relationships

While service inspections are often requested and supplied on demand, there can be huge benefits to ship owners and managers taking out safety agreements or safety management services with specialist safety providers.

For example, in Survitec, we offer safety service agreements so that we can build up partnerships with the owner/

manager. Our technical specialists get to know the vessel and can help predict and plan the vessel's servicing requirements, including harmonising due dates which also offers longer-term cost and time efficiencies. In this way we help owners and operators to maximise their investment, delivering:

Expert support with maintenance

- High-quality safety inspections performed by specialist technicians
- Timely replacement of ageing components

Expert support with regulatory compliance

- Proactive, personalised due date management
- Timely advice on new requirements (interpretation & implementation)

Advice on new technologies and retrofits

- System and equipment upgrades
- New products and services that help mitigate risk

Expert support and reassurance for crew

From our worldwide experience and the extensive research carried out for this White Paper, it is clear that a PSC detention can turn quickly from a seemingly minor operational inconvenience into a significant long-term financial impact event, yet is driven by predictable, preventable failures.

Safety faults and vessel detentions incur significant cost – but rigorous annual inspections protect against it.

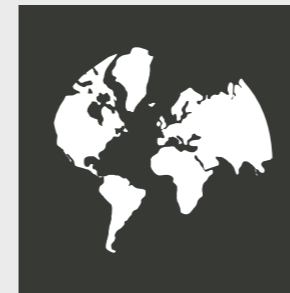
Survitec safety services for the maritime industry

Metkel Yohannes explains how Survitec's approach to safety inspections is informed by decades of experience as an OEM to ensure failsafe protection at sea.

"As an Original Equipment Manufacturer (OEM) and a leading provider of survival technology to the maritime industry, we know this equipment inside out. We work closely with regulatory bodies to keep up-to-date with the rules and regulations for the different flags and classes. We also understand the importance of regular inspections and help to define the requirements for the different service intervals. But, ultimately, it is our commitment to excellence and our purpose to protect lives that drives us to deliver meticulous inspections that will keep your seafarers and assets safe, while also minimising the risk of costly, unplanned repairs."

The Survitec difference:

The benefits of choosing Survitec as your safety service partner



Global coverage

Coverage of all key ports across 50 countries, 365 days a year, plus flying squads for emergency repairs



Highly-skilled technicians

Trained & approved to international standards to inspect & repair equipment across multiple brands



High quality parts

Fit-for-purpose spare & replacement parts, readily available across all global trading routes



Due date management

Full service agreements with your own dedicated account manager, for personalised support with compliance



Flexibility built in

Services can be delivered across multiple ports to accommodate globally-trading fleets



Clear pricing

Transparent pricing that allows you to budget more easily, with no hidden charges

References

Core Memorandum of Understanding (MoU) on Port State Control (PSC) regimes (primary datasets): Paris MoU, Tokyo MoU, Mediterranean MoU, Black Sea MoU;
 National authorities: Australian Maritime Safety Authority (AMSA), United States Coast Guard
 Aggregated / industry analytics: RISK4SEA, DNV (including Maritime Safety Trends 2014-2024 report), American Bureau of Shipping, World Ports
 Allianz Safety and Shipping Review 2025 (Allianz)

AMSA Annual PSC Report 2025 (inspection & deficiency trends) (Robban Assafina)
 DNV PSC detention summary (deficiency categories & patterns) (DNV)
 MarineTraffic / industry PSC snapshot (inspection & detention rates) (Shipvet.com)
 RISK4SEA global detention statistics (3-year global view) (RISK4SEA)
 AMSA historical detention performance by ship type (amsa.gov.au)
 Academic research on detention duration and drivers (ScienceDirect)

OUR GLOBAL MULTI-BRAND LIFEBOAT INSPECTION

1 Annual and 5-year inspections meeting SOLAS Chapter III and IMO MSC.402(96) requirements.

2 Authorised multi-brand inspection covers all lifeboats, rescue boats, davits and hooks.

3 All work carried out to consistent global standards by Survitec's multi-skilled certified Technicians.

4 Fire systems and personal lifesaving equipment can be included.

5 Unrivalled global network with 60+ Flag authorisations and Global Class approvals.

6 Single point-of-contact streamlines administration and logistics.

7 Harmonised due dates reduces visit frequency and cost, with proactive due date monitoring and alerts enhancing compliance.

8 Repair, refurbishment or replacement recommendations provided on completion of inspections.

9 Some repairs and refurbishments can be carried out on-the-spot to save the time and cost of repeat visits.

10 Supply and commissioning of new or replacement lifeboats, rescue boats, davits and hooks.

11 Fixed price agreements help control costs.

12 Port and service priority worldwide eliminates delays.



GET IN TOUCH

SURVITEC

4th Floor, 12 Finsbury Square, London, EC2A 1AS, United Kingdom

Email: info@survitecgroup.com

www.survitecgroup.com

Copyright Notice

© Survitec Group 2026. All rights reserved.

Disclaimer

This document provides general information about Survitec and its companies, its products and services, and summarises general capabilities and offerings which we deem to be of relevance to our customers. Whilst Survitec has taken appropriate steps to ensure the accuracy of the information contained in this document, Survitec gives no warranty regarding the accuracy or completeness of such information.

This presentation was prepared to provide information and does not constitute a contract. Survitec reserves the right, without prior notice, to change, delete, supplement, or otherwise amend at any time the information, images, and offerings contained in this presentation, or other documents. Survitec shall not be liable for any loss or damage of whatever nature (whether direct, indirect, consequential or other) that may arise as a result of any third party relying on the information contained in this document (but nothing in this disclaimer excludes liability for death or personal injury arising from negligence or any fraudulent misrepresentation).

For further detailed information, prices, terms and conditions, customers should contact Survitec at info@survitecgroup.com

V1