



# THE INTERNATIONAL PILOT

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## A MESSAGE FROM THE PRESIDENT

### *Fellow Pilots,*

As pilots, one of the key parts of our job is to anticipate a myriad of potential future developments during a pilotage assignment to ensure a safe transit. I like to think that this ability to plan effectively for future developments is something we retain when we are not piloting ships.

For my part, I see tangible indications that the year ahead will be a good one for IMPA and pilots worldwide. First, we are making progress on an extremely important issue for me: pilot safety. The Safety Campaign on pilot transfers held last fall was a success, providing valuable information for IMO's deliberations. And, speaking of such deliberations, I am especially encouraged to see IMO now being ready to consider amending – for the better – its Regulation 23 on Pilot Transfer Arrangements in SOLAS Chapter V.

Second, we recently held, for the very first time, a seminar on pilotage at IMO. The event was well attended and was an excellent opportunity to introduce many participants to various aspects of our profession, discuss the value of pilotage, and reflect on some key trends we need to consider for the future. We have broken new ground with this seminar, presenting original and innovative research that will continue to trigger stimulating exchanges and initiatives in the months ahead.

Third, I am encouraged to report that a new impulse, reflecting common sense, is finally gaining momentum on issues like maritime autonomous surface ships (MASS). Until now, we have often heard wild claims, supported by little evidence, about how our sector might radically change. A more realistic approach now seems to be emerging globally, recognizing that while incremental advancements in the further automation of some vessel functions might be possible, any such change must also be supported by a clear demonstration that it would not compromise safety, especially in restricted waters, and would fill *real* needs.



*Continued over on page 3*



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# Navicom Dynamics

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Finally, I am happy to report on the new potential flowing in at IMPA itself. An almost entirely new executive committee was elected at our recent Congress in Cancun, and its enthusiasm and commitment are palpable. The Association also has a new Secretary-General, Matthew Williams, who

brings us an appealing mix of youthful energy and solid experience in the international marine sector.

IMPA is moving full speed ahead, and the future is bright for its pilots!

## Message from the Secretary General

*Dear Colleagues,*

This is my first opportunity to contribute to the International Pilot as Secretary General of your Association. I have been humbled by the welcome I have received since joining IMPA and even more so by our community's commitment to delivering an effective public service for the safety of navigation, prevention of pollution and efficiency of maritime trade.

It is with pride that I look forward to representing a profession that is focused on doing its best work. Inevitably this will be your expectation of me and the Secretariat I will lead. We will continue to serve you with the spirit, diplomacy, and integrity that has been the Secretariat's hallmark for many years.

I have had the opportunity to meet with many Members but by no means all. I firmly believe that IMPA is its Members. To serve you to the best of my ability, I need to get to know you all - to understand the opportunities and challenges you face at home, the things that make you unique, and above all, your

perspectives on what unites our membership. I look forward to this journey with you.

My immediate priority is to make sure we take full advantage of the opportunity highlighted by the President: IMO, now being ready to consider amending SOLAS regulation V/23.

I would also like to take this opportunity to welcome Joselyn Luyiga to the IMPA Secretariat. She joined in October 2022 and will provide administrative support, allowing Eliane to evolve her work for IMPA to take full advantage of her Diploma with Distinction in Maritime Safety Policies and Regulation.



# IMO agrees to embark on work to improve the safety of pilot transfer arrangements

Matthew Williams, IMPA Secretary-General

In 2021 China proposed to the IMO that it look once again at SOLAS chapter V, regulation 23 (V/23) on pilot transfer arrangements. The impact of the COVID pandemic on IMO’s working arrangements meant that agreement to do the work was delayed until November 2022, making 2023 the start of important work for IMPA.

The Maritime Safety Committee (MSC) considered the proposal on 8 November. Following an early intervention by IMPA, 18 Member States, the International Chamber of Shipping (ICS) and BIMCO spoke in support of China’s proposal. It was evident in the supporting statements from member States that they had taken into account advice from IMPA Members represented on national delegations.

The statements from member States demonstrated wide-ranging support for ensuring that design, maintenance and inspection of equipment and arrangements for pilot transfer, and training of personnel involved in maintenance, inspection and rigging of pilot transfer arrangements were addressed. As a consequence of the statements made and the recognition of the urgent need to act, development of amendments to SOLAS regulation V/23 was included in the work of the Navigation, Communications and Search and Rescue Sub-Committee (NCSR) from 2023.

Whilst the Committee took into account submissions from China and IMPA, a proposal from Türkiye to expand the scope of work beyond the equipment and arrangements provided onboard ships,

was considered a step too far. IMPA expressed the view to member States that the very broad range of measures covering standards for pilot boats, boarding procedures and transfers by helicopter could be construed as intervention in the systems of pilotage employed in individual States. This is something that the IMO has so far agreed it would not do.

In light of exchanges between IMPA, China and the IMO Secretariat before, during and after MSC 106, *Figure 1* summarises the anticipated stages of work. The initial focus will be on the mandatory text in SOLAS regulation V/23, before looking at the associated resolutions, specifically:

- A.1045(27) which deals with recommendations on pilot transfer arrangements; and
- MSC.1/Circ.1428 on Required boarding arrangements for pilots.

The work is due to commence in May 2023, and is scheduled to be completed in 2024. Unfortunately, this does not mean that the effects of the change will be felt from 2024. In general,



Figure 1: Anticipated phases of work on SOLAS regulation V/23 and associated instruments.

amendments to SOLAS are made on a four year cycle and this means that the changes will not enter into force until the end of the next cycle; 2028. *Figure 2* summarises the anticipated timeline.

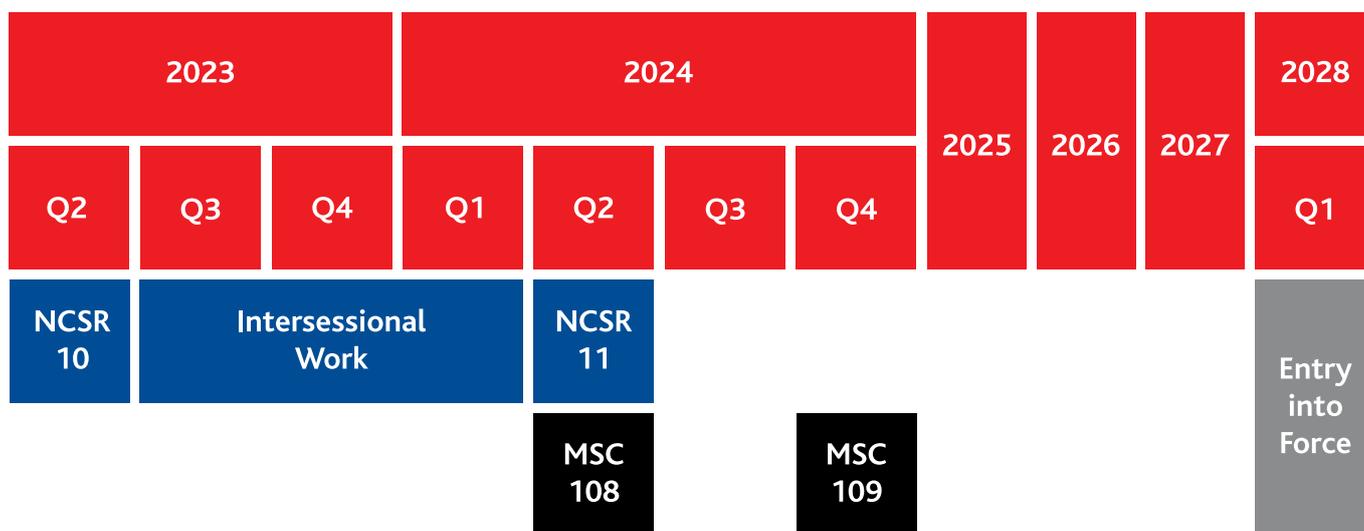
In terms of the amendments to SOLAS regulation V/23 that IMPA is discussing bilaterally with China and will pursue at NCSR 10, the following represent the minimum we would like to achieve:

- Treatment of the recommendations provided in A.1045(27) as a performance standard, in particular in the context of trapdoor arrangements;
- Removal, to the fullest extent possible, the grandfathering provisions as they relate to equipment and arrangements which are not related to the structure of the ship;
- Strengthened provisions for third-party certification of pilot ladders and associated equipment;
- Treatment of pilot ladders and associated equipment, particularly manropes, as safety critical consumable that should be provided with a finite service life. Nominally this should be not more than 30 months after the date of manufacture;
- Explicit provisions for the appropriate means of securing pilot ladders at intermediate length, informed by the results of research commissioned by IMPA and being conducted by the University of Southampton, UK; and
- Making more explicit that pilot transfer arrangements need to be properly addressed in approved safety management systems required by the ISM Code.

The IMO working group that deals with the results of casualty investigations looked into pilot ladder safety incidents. The results were reported to the Implementation of IMO Instruments (III) Sub-Committee in July 2022. IMPA participated in the review of this work and was able to ensure that the results can be actively considered, rather than being left to languish on a shelf. Principal among the recommendations is to combine all existing IMO guidance on pilot transfer arrangements into a single document. In addition to the amendments to SOLAS regulation V/23, A.1045(27) and MSC.1/Circ.1428, this consolidation could be beneficial.

IMPA's contribution to the amendments to SOLAS regulation V/23 and associated instruments is being coordinated by the IMPA Safety Sub-Committee. The latest draft amendments to SOLAS regulation V/23 will be posted in the IMPA Community for comment.

If anyone is in any doubt as to the value of the IMPA Safety Campaigns, and why involvement is so important, this is an example of what it can help IMPA achieve.



*Figure 2: Anticipated development and entry into force timeline.*



# Decarbonation, Digitisation and now Diversity are forces for change in the maritime sector

Eliane Blanch, IMPA Relationship & Operations Manager

## Did you know that in 7500 – 5700 BC, there were groups of human settlements with no measurable gender differences between women and men?

In the Çatalhöyük, a Neolithic settlement in central Anatolia, in what would today be Türkiye, women, and men were performing the same tasks and there were no particular gender-based hierarchies in their communities.

Around 2400 BC came the creation of formalised laws, and women and men were starting to be assigned different roles. This point could be regarded as the start of segregated societies and gender inequality.

Much of our behaviours and beliefs have been shaped over the years by the society that surrounds us, but we now find ourselves at a turning point.

### What is Diversity and Inclusion, or "D&I"?

This desire for more equality is captured under initiatives promoting "Diversity and Inclusion" or D&I. This is a simple and interconnected concept of social and human rights. Diversity is a recognition that over 8 billion people with different characteristics, including but not limited to gender, should all be treated equally and included in all socio-economic aspects of modern life.

Prioritising Diversity and Inclusion is an ethical responsibility that concerns us all as a global community. The maritime industry is facing up to the challenge without hesitation. In addition, international organizations are leading several initiatives to promote more inclusive societies, and the topic is becoming a top priority for the leadership of many governments and businesses around the world.

### The work of IMO on D&I and gender equality

The International Maritime Organization (IMO) has developed various programmes to support the United Nations' 5th Sustainable Development Goal on Gender Equality which aims to achieve gender equality worldwide and empower women and girls.

The development of these programs demonstrates a commitment to the 2030 Agenda, and we can cite the following as successful examples of how the topic is being highlighted and discussed openly.

**International Day for Women in Maritime:** on 9 December 2021, the IMO Assembly adopted Resolution A.1170(31), establishing the 18th of May as the 'International Day for Women in Maritime' to celebrate all women and their contribution to the industry.



**The IMO's gender programme** is a strategic plan to raise women's profile within the industry. Using the slogan "**Training-Visibility-Recognition**", the IMO aims to get Member States to recognise and support women as key stakeholders in the maritime world, highlighting that countries with more gender equality have better economic growth.

The IMO has also facilitated the creation of professional networks for women around the globe. Currently, there are eight Women in Maritime Associations (WIMAs) established in Africa, Arab States, Asia, the Caribbean, Latin America, and the Pacific, covering some 152 countries, as well as a partnership with the Women's International Shipping and Trading Association (WISTA International) of which IMPA is a member.

**IMOGENder** is a network for delegates of IMO Member States and observer organizations to work in a coordinated manner, share information, and exchange ideas and best practices aimed at achieving gender equality and promoting the participation of women in the maritime sector. The group's main initiative is the mentoring project, Women on Board.



The Maritime SheEO Leadership Accelerator Programme is a joint effort programme developed by key industry experts, IMO and WISTA to enable women to become part of an active and trustworthy network of female executives who support and inspire each other on their journeys to becoming the next generation of female maritime leaders.



### Data, statistics, and benchmarking

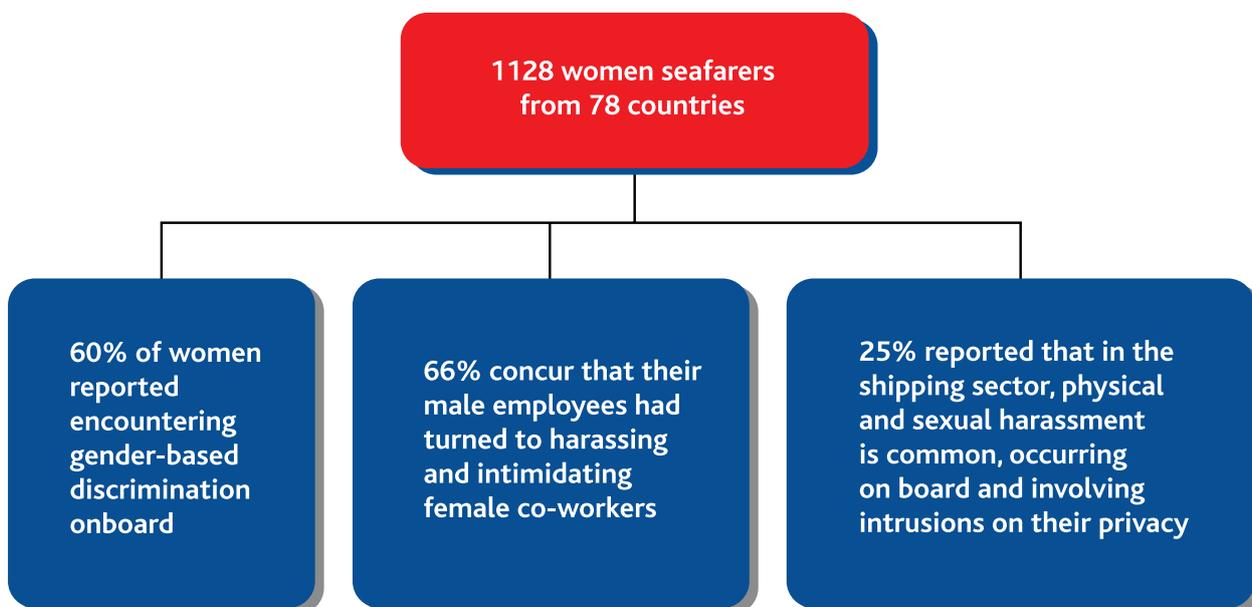
According to BIMCO and the International Chamber of Shipping (ICS)'s latest Seafarer Workplace Report, women represent only 1.2% of global seafarers. The BIMCO and ICS Seafarer Workplace Report can be found on the ICS website.

As a part of the maritime community, we should continue working to find out the reasons behind the low percentage of women in the industry.

WISTA International, Anglo Eastern, International Seafarers Welfare and Assistance Network (ISWAN), and International Chamber of Shipping (ICS) conducted a public online survey designed to examine how female seafarers perceived "discrimination" and how it manifested onboard based on their personal experiences. The survey findings can be found in "The Diversity Handbook." The graphic below summarises the survey outcomes.

The Diversity Handbook can be found here: <https://wistainternational.com/the-diversity-handbook/>

## The Diversity Handbook findings



## IMPA Engagement and Initiatives

### International Day for Women in Maritime

During the inaugural International Day for Women in Maritime on 18th May 2022, IMPA had the pleasure to participate in the IMO Symposium "Training-Visibility-Recognition: Supporting a barrier-free working environment for Women in Maritime." The Symposium highlighted the need for women to be more visible throughout the industry.

This was followed by the release of the **IMO-WISTA Women in Maritime survey** results, which set a baseline for future progress in enhancing the visibility of women in the industry. The results of the Survey can be found on the WISTA website.



Left to right: Ms Luisa Burgess, Advisor at Ecuador IMO Representation, Mr Kitack Lim, IMO Secretary-General and Ms Eliane Blanch, IMPA Relationship & Operations Manager.

Continued over on pages 8 and 9.

The IMO Secretary General, Mr. Kitack Lim, who is an advocate for the work of maritime pilots and pilotage, stated in his address to delegates: *“Let’s work to break down barriers and ensure that we create a work environment that is enabling, supportive and inclusive of diverse participation by all, without hindrance in the maritime community.”*

IMPA is an active member of the IMOGENder network. This gives IMPA an excellent opportunity to strengthen its relationships with Member States’ Representatives and the IMO Secretariat in new and positive ways. This is highlighted by our participation in an event to recognise delegates from Mexico and Liberia as network coordinators

Furthermore, IMPA Secretary General, Matthew Williams has volunteered to participate in the mentoring programme as a mentor to the World Maritime University (WMU) and the IMO International Maritime Law Institute (IMLI) students.



### IMPA taking first steps towards D&I

IMPA is a diverse association by nature. We are an international association with members in 53 countries. But are we inclusive enough?

The evidence tells us that the maritime sector, including pilotage, is a male-dominated industry. Therefore, the IMPA Executive Committee is discussing how to promote women in pilotage and at a governing level as part of the IMPA Advisory and Executive Committee.

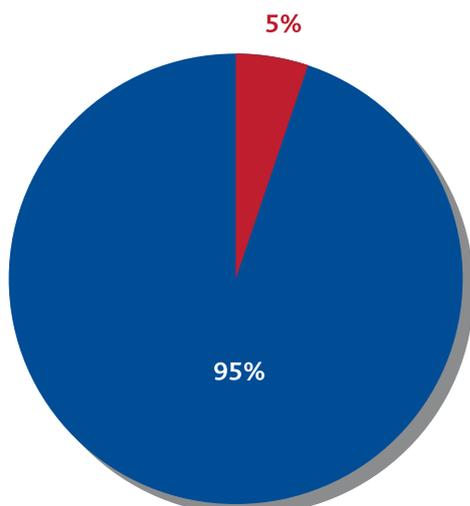
IMPA is committed to promoting diversity and inclusion. An example is the unanimous agreement at the 88th Session of the IMPA Executive Committee in October 2022 to explore the expansion of the Advisory Committee to include a dedicated advisor to ensure that the interest of female maritime pilots is represented. This is the first step in encouraging female candidates to put themselves forward for nomination as an Executive Officer of IMPA.

Our members have responded positively to the work IMPA has initiated to measure the scale of the challenge. Understanding the number of female licensed maritime pilots and those in training and the selection process used in some countries is a necessary first step. What we can measure, we can improve.

According to our records, IMPA had 142 female pilots in 2022. This represents 1.73 % of our membership. This is marginally better than the overall results for the industry reported by BIMCO and ICS.

## Benchmarking

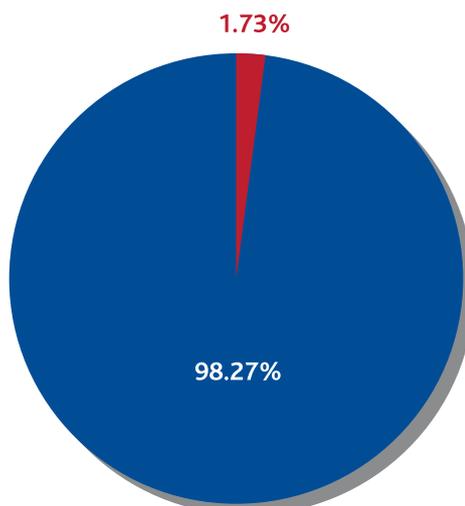
AIRLINE PILOTS



Female Male

The latest report of the ICAO shows 500,000 active airline pilots

MARITIME PILOTS



Female Male

8,218 maritime pilots’ members of IMPA were reported in 2022

We have found that the low level of females in pilotage is a shared issue with female airline pilots. According to the International Society of Airline Women Pilots (ISA)'s latest workforce report, only 5% of their pilots are women.

There is no doubt that the Global pandemic, Covid 19, has accelerated the inclusion and diversity process in maritime and other industries. Stakeholders have recognised the importance of building a more robust and resilient labour force. An inclusive labour force where gender or nationality is irrelevant when recruiting talented candidates.

Recent studies and statistics show that approximately 804,000 airline pilots will be needed to meet demand by 2038. Consequently, airlines now encourage women into the flight deck as it's in their best interest for all.

The latest ICS and BIMCO Workforce Report predicts a shortage of 26,000 seafarers and an estimated demand of 800,000 seafarers by 2030. Our reliance on that talent pool means that we will depend on the adoption of effective policies by the industry. Equally, IMPA is committed to working with key stakeholders to provide its members with the latest information and best practice guidance to improve Diversity and Inclusion.

We are stronger as a united and diverse community focused on the safety of navigation, prevention of pollution, and enabling efficient maritime trade.

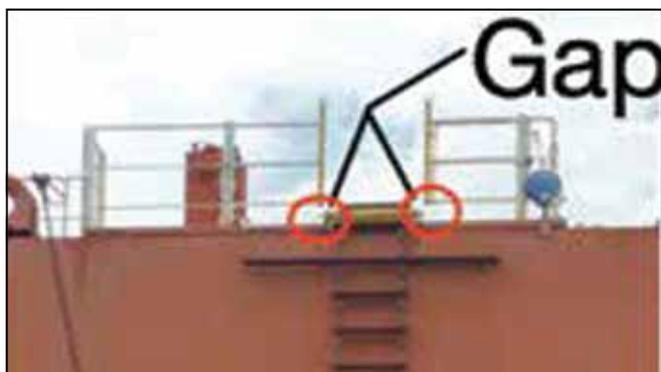
The graphic on page 8 shows the total number of Airline and Maritime Pilots in recent years and the percentage of females (in red) and males (in blue).

## United States Coast Guard Safety Alert 04-22

The USCG has issued Marine Safety Alert 04-22, *Verify Gateway Handhold Arrangements*, following a fall from a pilot ladder where the handholds in the gate arrangement aboard the vessel terminated without being rigidly secured to the vessel's structure.

The gap above the ship structure appeared to be a modification to allow for the passing of the spreader during deployment and retrieval of the pilot ladder. This made it possible to retrieve the pilot ladder without having to lift the spreader up and over the ship's railings.

A Safety Alert has been issued, although, at this time we cannot speculate on how this modification contributed to the accident. Readers are reminded that pilot ladder requirements as specified in SOLAS 2004 (Consolidated) and by IMO Resolution A.1045 (27) should be strictly adhered to.



### Lessons learned

The International Organization for Standardization (ISO) recently published a series of standards aimed at improving pilot ladder safety.

These standards supplement existing IMO recommendations and requirements for pilot ladders. Vessel owners and operators, shipboard personnel and system designers are strongly encouraged to review and comply with these standards.

- ISO 799-1:2019 Ships and marine technology – Pilot ladders – Part 1: Design and specification.
- ISO 799-2: 2021 Ships and marine technology – Pilot ladders – Part 2: Maintenance, use, survey, and inspection.
- ISO 799-3:2022 Ships and marine technology – Pilot ladders – Part 3: Attachments and associated equipment.



# Quantifying the value of maritime pilotage

Transportation Economics & Management Systems, Inc. (TEMS)

During the IMPA Seminar at IMO in November 2022, we were able to invite Dr Edwin Kraft of the Transportation Economics & Management Systems, Inc. (TEMS) study team<sup>1</sup> to deliver an insightful presentation on work done to quantify the value of maritime pilotage.

Quantitative, comparative assessments of the value of maritime pilotage are challenging. This is because there are only a few bodies of water in the world where a direct comparison between ships using the services of a licensed pilot and ships without a pilot is possible. However, there are a few areas in the world where quantitative, comparative assessments are possible and these can be used to demonstrate that maritime pilotage offers statistically significant reductions in risk. TEMS' team IMPA presentation built on their earlier 2020 Cost Benefit analysis of maritime pilotage in Canadian waters<sup>2</sup>; this was based primarily on safety data from the Danish Straits and Puget Sound. The November 2022 presentation expanded on the earlier safety analysis by adding data from the Turkish Straits<sup>3</sup>.

**Danish Straits Analysis** – An analysis of grounding data for the Great Belt utilized a sample of 1,810 deep draft ships, where due to the fact that the Great Belt channel is an ancient, winding riverbed, the IMO strongly recommends that deep draft ships take a pilot.

- Out of these 1,810 ships, 1,743 ships or 96.3% took a pilot. All of these successfully transit through the Great Belt, that is, without any grounding.
- However, 3.7% of 1,810 ships, or 67 ships did not take a pilot. Of these, an average of 6.3 ships per year experience grounding, a rate of nearly 10%.

The Clopper-Pearson statistical analysis was used to find out whether this difference in grounding probabilities was statistically significant. With a pilot at 95% confidence we can be sure that the grounding probability of a piloted ship does not exceed 0.211%.

By comparison for a non-piloted ship, the grounding probabilities fall in the range of 3.3% up to 18.5%. Note that

these ranges don't overlap, so this difference is statistically significant. As such, on the basis of the Great Belt data, we can be confident that taking a pilot results in a material reduction in the likelihood of a maritime accident. The overall conclusion of the Danish Straits analysis is that adding a pilot alone reduces the risk of a maritime accident by a reduction factor of 44 times.

**Puget Sound Analysis** - Pilots often use tugboats as an essential tool to help them control large vessels in congested port areas. When tugboats are used they provide an additional safety mitigation particularly against drift grounding or certain kinds of vessel collision risks. Using the same methodology, an analysis of tanker groundings in Puget Sound, with or without escort tugs was also conducted and showed that adding tugs further reduced the risk by a factor of 12 times, bringing the overall risk reduction associated with the use of pilots and tugs together to  $44 \times 12 = 512$  times.

In other words, we can estimate with a high degree of certainty, that taking a pilot has a significant impact on the frequency of groundings, collisions and other serious maritime accidents in spite of the complexity of the port and coastal areas within which pilots operate. The use of pilots alone reduces the maritime accident rate by 97.7% and if tugs are used along with pilots this risk reduction increases to 99.8%.

**Turkish Straits Analysis** - Notwithstanding the very positive results of the earlier studies, when it became apparent that another source of data from the Turkish Straits might be available, IMPA wanted to have this data analyzed to see if it would corroborate the earlier analysis.

It's important to understand that the navigational challenges in the Turkish straits are different than those in the Danish straits. While the problem in the Danish straits is channel depth, this is not an issue in the Turkish straits. Rather, vessel

maneuverability (particularly of longer vessels) has become the main problem because of the requirement for making a series of sharp turns in the midst of complex and often adverse currents, which are constantly changing and can flow in different directions at different depths of the waterway.

As such, the pilotage recommendation for the Turkish straits is primarily based on the length of the vessel rather than its draft. While the IMO recommends that all ships take a pilot through the Turkish Straits and many smaller ships do, the Turkish authorities have strongly suggested that all ships greater than 150m length should take a pilot.

While open source data suggests that the total number of transits through the Turkish Straits are declining, the proportion of ships greater than 150m making such transits is increasing, i.e., the larger and larger ships are carrying a greater proportion of the cargo. However, these are the most problematical category of ships for the straits since it is often only possible for one ship of this size to pass through the straits at a time.

The first finding of the Turkish straits analysis was that the likelihood of a vessel taking a pilot is strongly correlated with its length. As a result of the increase in average vessel length, a 15% improvement in the number of ships taking a pilot has occurred. Of particular concern however, is ship size category 150 – 200m size, of whom only 83.1% of ships have been taking a pilot. (150m exceeds the threshold recommended by the Turkish authorities) Fortunately, ships greater than 200m have pilot uptake rates in excess of 99%, so the problem with pilotage utilization in the Turkish Straits really seems to focus on the category of 150 – 200m ships.

The data available for the Turkish Straits allowed analysis of collisions and groundings from a sample of 587,438 ships, taking into account vessel size. In this regard, the analysis was able to show that the risk of a maritime safety incident increases with ship size. However, it is ships with a length of 150 – 200m that have the highest probability of a collision or grounding in the Turkish Strait because of their lowered pilotage utilization rates. The ships exceeding 200m actually had less collision risk because the high utilization of the pilots more than offset the accident risk increase associated with the larger vessel.

The Turkish Straits study showed that the probability of a maritime safety incident is 59x less for ships that take a pilot. This result is of the same order of magnitude as the risk reduction from the Great Belt data, in absolute terms it is even greater than that found for the Great Belt (44x) by 34 percent. This is likely because the data for the Turkish Strait includes both collisions and grounding data; whereas the Great Belt data focused only on groundings.

**Conclusions** - The Turkish Strait results have not yet been formally integrated with the Great Belt analysis, but this work is planned to be accomplished in an upcoming update to the Canadian Marine Pilots Associations' Cost Benefit analysis study. A direct comparison showed however, that the maritime safety incident rate for ships using the services of a pilot in the Turkish Strait and the Great Belt are broadly comparable,

0.00599% and 0.00636% respectively, with the accident risk reduction in the Turkish Straits being somewhat greater than that found for the Danish Straits. Most likely this increased impact of pilotage is due to the inclusion of additional categories of risk that are not included in the Danish data.

An important additional finding of the Turkish Straits study is that vessel accident risk increases sharply as a function of vessel size. Of course, this was already evident in the 10% grounding rate of deep draft vessels in the Danish Straits but the Turkish data has enabled a direct comparison of the accident rates and vessel size that confirms the findings.

It should be noted that the TEMS 2020 Canadian Cost Benefit study report had already identified the fact that larger vessels tend to have more expensive accidents; coupling this with an increased risk of accidents for larger vessels implies an almost exponential increase in accident costs as vessel sizes continue to rise. This cost increase can only be mitigated by the use of pilots and tugs to restore the accident rates and costs to acceptable levels. This underscores the increasing importance of pilotage in the future, as average vessel sizes are projected to continue to rise.

The independent corroboration provided by the Turkish Straits data demonstrates that the findings of the analysis of the Great Belt are not unique to the Great Belt, but that the results of the Great Belt analysis could actually underestimate the social benefit of maritime pilotage. This means that the cost-benefit ratio of 30.57 found in the 2020 cost benefit analysis of maritime pilotage in Canadian waters is likely to be conservative. This is especially true as vessel sizes are projected to grow in the future, the need for experienced pilots and the contribution they make to maritime safety, will only continue to go up.

It is increasingly important that IMPA as well as national Pilotage groups are able to make the case for duly regulated maritime pilotage on the basis of comparative, quantitative analysis. This is the language of the policy and decision makers responsible for the systems of pilotage within which IMPA's membership operate. The presentation delivered by TEMS at the IMPA Seminar can be found on our website and in the Community Hub.

<sup>1</sup> TEMS team conducting the analysis of the effectiveness of Maritime Pilots and their contribution to the economy is Dr. Alexander Metcalf, Dr. Edwin Kraft and Dr. Yang He.

<sup>2</sup> 2020, TEMS, Marine Pilotage in Canada: A Cost Benefit Analysis by the Canadian Maritime Pilots' Association.

<sup>3</sup> 2022, TEMS, Turkish Data Integration Project.

# Contact with a buoy and close quarters situation

A VLCC in ballast was approaching port for anchoring. The pilot was confirmed for 10:00. Weather conditions were good with a northerly wind of about 10 knots, good visibility and slight sea conditions. A tidal stream was running WSW at about 1.8 knots. The engine was put to dead slow ahead to drop off speed and adjust the ship's arrival at the pilot boarding area for the agreed time.

At 09:37, the Master asked the OOW if he had established a visual contact with the pilot boat. The OOW responded positively. The bridge team was confident that the pilot boat would be at the designated position before their ship, so no action to further slow or stop the ship was taken. Several minutes later, with the ship steering 300 degrees and with a speed of 5.8 knots, the remaining distance to the pilot station was about 1.2nm.

At 09:50, the ship was heading 315 degrees at a speed of about 5.3 knots. The distance from the pilot station was now only about 0.7nm. The Master stopped the engine. The ship continued to slow and the heading now increased slowly to starboard. The ship was closing on a buoy. At 10:00 the speed was about 4 knots and the pilot boat had not yet arrived. The Master ordered hard starboard and set the main engine to dead slow ahead in order to avoid the buoy but to no avail; they struck the buoy about four minutes later on the port side near midships.

The buoy slid down the ship's port side and cleared the stern with only minor damage.

The ship was now drifting with a Speed Over Ground (SOG) of 3.4 knots, on a trajectory towards a nearby anchored ship. The Master attempted to stop the ship, but the distance to the anchored ship was now only 0.5 nm. The Master quickly concluded that it was not feasible to stop the ship. Instead, by putting 'Full Ahead' on the engine in combination with a succession of wheel alterations (hard to starboard and then hard to port) they managed to avoid contact with the anchored ship (images 1-4, below). About 20 minutes later, the pilot boarded and subsequently safely anchored the ship in the anchorage area.

The company report found, among others, that:

- The passage plan lacked the appropriate precautions and contingency arrangements. Specifically, the speed of approach and the waiting area for the approach were not adequately planned.
- The large drift angle and the proximity of navigational hazards was not determined at an early stage.
- The effect of the current on the ship's drift was not effectively monitored and assessed. As a result, the bridge team did not adjust the ship's course and speed in a timely manner when approaching the pilot boarding station.
- Bridge Resource Management (BRM) was less than adequate. The Master did not explicitly inform the ship's bridge team about his intentions related to approaching and manoeuvring. As the ship progressed, the OOW's comprehension of the situation did not trigger any actions for clarification or corrective action.
- The OOW did not provide sufficient information related to the pilot boat approaching. Instead, he confirmed that the pilot boat was approaching without informing the Master of the actual distance from the ship and the time needed to arrive alongside. As a result, the Master wrongly assumed that the pilot boat was closer than it actually was, so he continued on instead of stopping.

## Lessons learned

- Effective BRM should be a working culture – a safety habit that is embraced and practised by all navigating officers. Closed-loop communications should always be used to eliminate any doubt or ambiguity.





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# Deadly MOB while rigging a combination arrangement for pilot transfer

As edited from the Republic of the Marshall Islands maritime safety incident investigation report 4371

In the early morning hours, a loaded tanker with seven metres of freeboard was approaching port at about 6.5 knots. There was a light wind and seas of approximately one metre. Visibility was good, but it was still dark; sunrise was in about one hour and 45 minutes. The air temperature was 15°C, and the seawater temperature was 16°C.

The combination accommodation/pilot ladder was being rigged to allow pilot access. The Bosun and one other seaman were on deck for this task while the OOW monitored from the bridge. After lowering the accommodation ladder the Bosun and the seaman took off their lifejackets and safety harnesses/lines. They then rigged the pilot ladder, but they found that the lower platform of the accommodation ladder needed adjusting to be parallel with the water. The seaman went down the accommodation ladder without putting his lifejacket and safety harness back on. Neither the Bosun nor the OOW in the wheelhouse objected to this unsafe act.

The lower platform is held in position by a securing pin that passes through one of four sets of holes in the angle bracket. The angle of the platform is determined by which set of holes on the angle bracket the securing pin is passed through. Changing the angle of the platform after the accommodation ladder is lowered requires the operator to crouch down to reach and remove the securing pin with one hand while using the other hand to hold onto the rope attached to the platform to reposition it at the intended angle. They can then put the securing pin in the proper set of holes.

While performing this balancing act, the seaman lost his balance and fell overboard. The Bosun immediately reported a MOB on the port side to the bridge with his handheld VHF radio and then ran aft to throw a life buoy. He lost sight of the victim when he was about 100 metres astern of the ship. Meanwhile, the Master ordered the rudder hard to starboard. In the flurry of events, the lighted MOB buoy mounted on the bridge wing was not released.



Within 12 minutes the ship had completed a single turn manoeuvre and reached the position where the victim had fallen overboard. The rescue boat was ready to be launched but was not used, since local search and rescue (SAR) units and the outbound pilot boat were already tasked to search for the victim. The pilot assigned to the ship embarked to assist the Master and coordinate with local authorities. When the victim could not be found after three hours searching, the SAR mission was suspended.

## Lessons learned

- Actual Man Overboard (MOB) events are rather rare but when they happen, they are often serious or fatal for the victim. Numerous quick and decisive actions must be taken by the vessel's crew. For this reason, realistic MOB exercises are regularly performed to imprint the actions into rote memory. In this case, many of those actions were performed well but two critical ones were not:
- The vessel was turned to starboard for a port side MOB. Normally the vessel should always be turned to the same side as the victim to throw the stern clear of the victim.
- The bridge wing lighted MOB buoy was not released. This should be an automatic gesture by the OOW in any real MOB situation.
- PPE, PPE, PPE. Every time someone works overboard they should be wearing a lifejacket and a well secured safety harness.
- Look after yourself but also look after your mates! The victim decided to go down the accommodation ladder without his lifejacket and safety harness/line. Yet, both the OOW on the bridge watching the work and the Bosun acquiesced to this unsafe act.
- If acrobatic acts are necessary to complete a task, that means the task should probably not be completed under those conditions.

# Anchoring kerfuffle

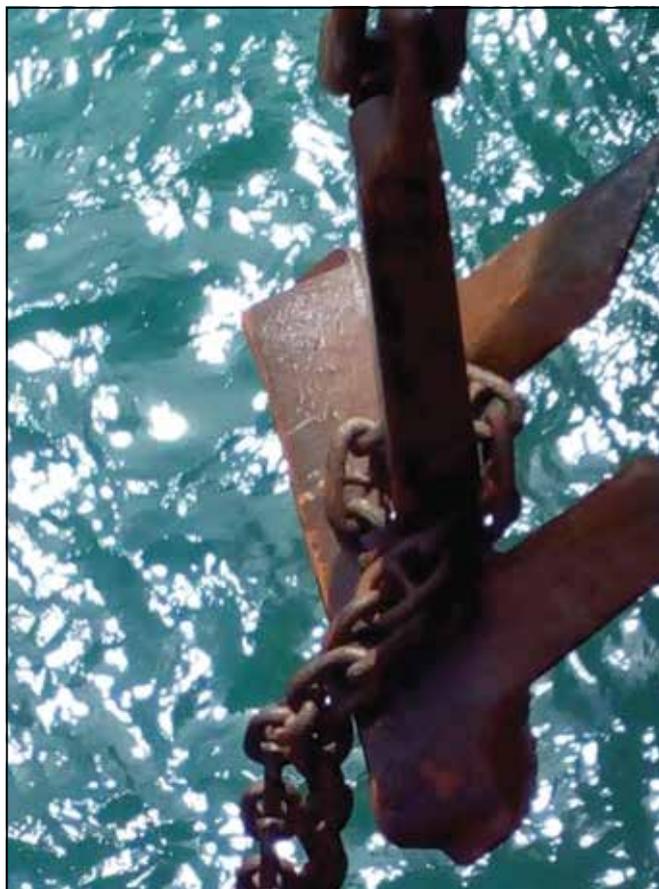
A tanker arrived at a busy anchorage for bunkering and provisions. With pilot on board, they prepared to drop the port anchor at the designated anchorage. After preparations were completed the port anchor was let go on the brake, with instructions to secure it with seven shackles in the water. During the operation the anchor and chain took on too much momentum and the brake could not stop the outflow of chain. The anchor was presumed lost.

Having consulted with the pilot, and in view of the surrounding traffic, the Master instructed the anchoring team to prepare and lower the starboard anchor with the windlass in gear in order to safely complete the anchoring operation.

The port anchor chain was then heaved up. It was found that the anchor was not, in fact, lost; the bitter end had remained secured. However, when the port anchor was heaved up, it could not be secured because it had become entangled with the starboard anchor chain.

The company investigation found that the port anchor brake was not working properly; it did not move before the brake reached the 90% open position. If the equipment had been in good condition, the anchor chain could have been controlled.

Also, the investigation found that after the port anchor chain paid out uncontrollably, the actual condition of the port anchor was not correctly assessed/communicated to the bridge. Had this been done, the starboard anchor would not have been deployed and the incident would have been avoided.



## Lessons learned

- Anchor brake maintenance is a crucial element in safe operations. The uncontrolled descent of an anchor chain can not only pose a significant risk of losing an anchor, but also poses a lethal hazard to crew.
- During and after an incident it is sometimes difficult to assess and communicate the state of affairs – yet this is what is needed for ships' leaders to make the right decisions going forward.



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# Situational awareness when moving in more than one direction

As edited from the Swedish Accident Investigation Authority investigation into a serious marine incident involving a collision between a ro-ro cargo ship and a tug (RS 2022:03e)

A ro-ro cargo ship was inbound and had just boarded a pilot. The Master was soon to take a pilot exemption certificate for the port, so he asked the pilot for permission to manoeuvre the vessel into the harbour under the pilot's supervision. The pilot had no objections.

Infrastructure works were taking place in the harbour near the ro-ro vessel's dock. On the day of the occurrence, a dredging barge, split hopper barge and an attending tug were working as a group in an area indicated by four yellow buoys.

As the ro-ro cargo ship entered the harbour, it had to turn 180 degrees before berthing. An officer, in direct radio contact with the bridge, was posted on the quarterdeck in order to assess and report the distance between the vessel's stern and the dredging units. Once the vessel's stern had passed the last yellow buoy of the dredging area at a distance of 30 metres, the Master initiated the turn to port using the rudder and side thrusters (bow and stern). The Master then moved to the portside bridge wing where the engine, rudder and side thruster controls were now switched. At about the same time, the pilot moved over to the starboard side of the bridge in order to have a better view of the vessel's stern.

The vessel gained speed astern, and was closing on the dredging units. The officer on the quarter-deck warned the bridge team that the vessel was now 20 metres from the dredging units and continued to give the distances, which were closing quickly as the ro-ro was now making about two knots astern. At some point, full ahead was applied on the engine controls but the effect was too late. The stern of the ro-ro continued to sweep over the attending dredging tug. The tug wheelhouse was torn from its attachments, and was left hanging over the starboard side of the tug.

After the collision the ro-ro cargo ship proceeded ahead in order to pass the dredging unit, complete the turn and reverse into its berth. The three crew of the dredging unit were unharmed but the tug was listing heavily.



*Tug wheelhouse torn from attachments.*

## Lessons learned

- Controlling a vessel that is moving in two directions (swinging and fore/aft movement) is harder than controlling a vessel that is moving in only one. The fact that the vessel was turning at the same time as it was reversing probably affected the bridge team's situational awareness.

## IMO PROGRAMME 2023

When?	What?
23 - 27 January	<b>Sub-Committee on Ship Design and Construction (SDC 9)</b> <ul style="list-style-type: none"> <li>• Underwater radiated noise from ships</li> </ul>
6 - 10 February	<b>Sub-Committee on Human Element, Training and Watchkeeping (HTW 9)</b> <ul style="list-style-type: none"> <li>• Comprehensive Review of the STCW Convention and Code</li> </ul>
27 February - 3 March	<b>Sub-Committee on Ship Systems and Equipment (SSE 9)</b> <ul style="list-style-type: none"> <li>• Redundancy requirements for ships with unconventional propulsion and steering systems</li> </ul>
13 - 17 March	<b>Facilitation Committee (FAL 47)</b> <ul style="list-style-type: none"> <li>• Electronic business, data exchange, and harmonization</li> <li>• MASS</li> </ul>
27 March - 1 April	<b>Legal Committee (LEG 110)</b> <ul style="list-style-type: none"> <li>• MASS</li> </ul>
10 -19 May	<b>Sub-Committee on Navigation, Communications and SAR (NSCR 10)</b> <ul style="list-style-type: none"> <li>• <b>Amendments to V/23 (Pilot transfer arrangements)</b></li> <li>• ECDIS route exchange</li> <li>• Routeing and reporting measures</li> </ul>
18 May	<b>International Women in Maritime Day 2023</b>
31 May - 9 June	<b>Maritime Safety Committee (MSC 107)</b> <ul style="list-style-type: none"> <li>• Outcome of NSCR 10</li> <li>• MASS</li> </ul>
25 June	<b>Day of the Seafarer 2023</b>
3 - 7 July	<b>Maritime Environment Protection Committee (MEPC 80)</b> <ul style="list-style-type: none"> <li>• Reduction of GHG emissions from ships</li> <li>• Improving the energy efficiency of ships</li> </ul>
17 - 21 July	<b>Council (C 129)</b> <ul style="list-style-type: none"> <li>• Election of a new IMO Secretary General</li> </ul>
31 July - 3 August	<b>Sub-Committee on Implementation of IMO Instruments (III 9)</b> <ul style="list-style-type: none"> <li>• Casualty investigation analysis and lessons learned</li> <li>• Port State Control procedures</li> </ul>
28 September	<b>World Maritime Day 2023</b>
20 - 24 November	<b>Council (C 130)</b>
27 November - 8 December	<b>Assembly (A 33)</b>

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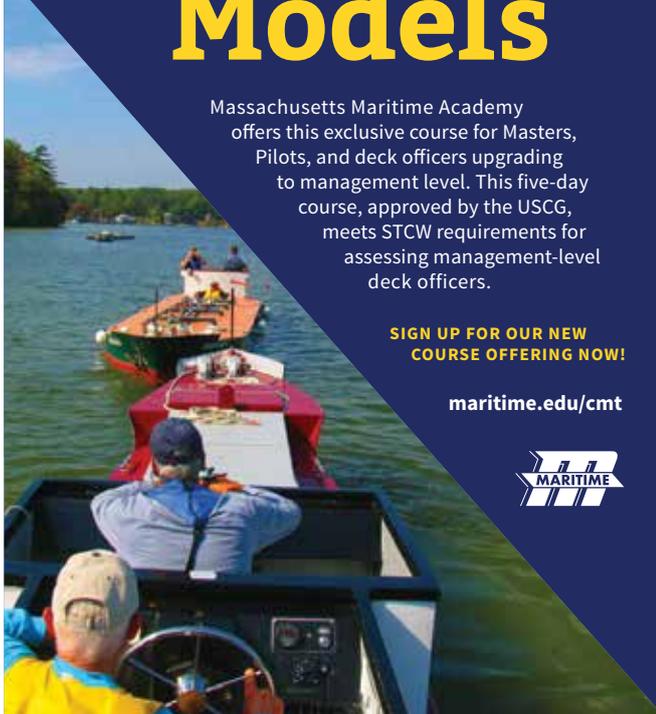
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