A MESSAGE FROM THE PRESIDENT

Fellow Pilots,

From September 24 to 29, 2016, IMPA held its 23rd biennial Congress in Seoul, Korea. The Congress was a great success and the excellent work done by the host committee needs to be underlined once more. Pilots from all over the world left Seoul not only with indelible memories and a strong sense of comradeship, but also with the satisfaction that comes from having learned valuable lessons about their profession and the marine sector.

What struck me most, as it does each time I attend the biennial meeting, is the tremendous amount of information-sharing and problem-solving that goes on not only through the formal agenda but in the many informal gatherings that take place along the margins of the meeting itself. The wide range of discussions, both at the technical and the policy level, leads to the identification of best practices and fosters a culture of innovation and continuous improvement. The word “congress” is rooted in two Latin words that originally meant “to take steps together.” And I can’t think of a better expression to describe the spirit of the meeting: to bring people together, to share ideas, information and points of view, while at the same time providing them with the opportunity to enjoy each other’s company in a convivial setting.

While the Congress was organized by pilots, it is noteworthy that participation at the event also included persons from the entire spectrum of the marine transportation sector. We were especially delighted to have with us the Secretary-General of IMO, Mr. Kitack Lim, who provided an inspirational and heartfelt keynote address during the opening ceremony. I know Mr. Lim’s vision of enhancing the general understanding of the role played by shipping within the global supply chain, and of promoting strong, fact-based, regulatory frameworks – in which the virtue of professional independence is appreciated – left a lasting impression on delegates and appropriately set the tone for the conference’s proceedings.

In closing, as one year comes to an end and as we start a new one, and as we reflect on both successes and ongoing challenges, I believe it is important for us to never take anything for granted, and to incessantly continue delivering our message about safety and the necessity to maintain the highest professional standards, not only in respect of pilotage itself, but across the entire maritime industry. Dear friends and colleagues, I hope that our paths will cross in the New Year and, in the meantime, my very best wishes go out to you.

Simon Pelletier
WITH THE PANAMA CANAL EXPANSION PAVING THE WAY FOR LARGER SHIPS TO CALL AT DIFFERENT PORTS, MSRC PROPOSES:

- Four Fully Equipped Interactive Simulators, networked to a common simulation control system
- Perfectly own ship models suitable for pilot training and advance manoeuvring
- In-house Modeling Capability which allows building, modifying or customizing:
  - Exercise Areas
  - Ship Models

LEADING-EDGE TRAINING DEVELOPED BY PILOTS FOR PILOTS

- Ship handling in Restricted Waters for Pilots
- Escort Operations for Pilots
- Docking manoeuvres
- Advanced (Pilotage) Radar Techniques in Restricted Waters
- Post-Panamax Vessels: New Challenges for Pilots
- Emergency Shiphandling Procedures for Pilots
- Other specific training programs developed on request

"After visiting numerous simulators over the years and then spending a full week in MSRC Quebec City, it was clear this is the best we've seen. With a combination of world class equipment and a world class team of maritime experts, MSRC stands apart from the rest."

Captain Mike Armstrong
Fraser River Pilots, British Columbia, Canada
Director, Canadian Maritime Pilots Association

FULL TURNKEY SERVICE FOR OPERATIONAL FEASIBILITY STUDIES

- Ports preparation for the arrival of larger container ships
- Ship handling in Restricted Waters and Channels
- Assessment of limitations
- Tug Operations and Docking Manoeuvres
- Escort Operations

"For any port authority or engineering firm interested in port development, the simulation facility at MSRC represents one of the most comprehensive combinations of equipment, technology and piloting expertise available in the world.

Furthermore, its inhouse piloting expertise coupled with other commercial partnerships, ensures that the majority of practical risk and manoeuvring analysis can be conducted at the preliminary and intermediate levels of port design, presenting clients with a solution that is workable, and that can be fully demonstrated and validated to port authorities and piloting associations using high fidelity interactive simulations."

Captain Gariand Hardy
President, Lante Marine Inc.

EXPERIENCE QUEBEC CITY AND ITS UNIQUE ATTRACTIONS

A visit to the MSRC is already a unique experience in itself. Why not take advantage of the opportunity to discover all the beauty and wealth of one of the oldest port cities in North America, the majestic City of Quebec!

You are sure to be delighted by its heritage sites, its picturesque neighbourhoods, its artistic and cultural activities, and its gastronomic treats!
Message from the Secretary General

Dear Colleagues,

Once again, as in the last edition, I am writing this message at IMO’s Maritime Safety Committee, having just arrived back from the New Zealand Pilots’ Conference. The second day at IMO was almost surreal because after lengthy exchanges between the two Koreas and the rest of the World about missile firing, out of nowhere came a statement from Japan challenging the requirement for pilot ladder steps to be “free of knots”! Such is life at IMO.

I was very pleased to be part of an event arranged in Auckland by New Zealand Maritime Pilots’ Association to launch what will become the ‘Oceania Maritime Pilots’ Forum’ which will aid all the Pacific Island Pilots to become closer to other areas and benefit from knowledge and experiences of Pilots around the globe.

This year has been a busy one for IMPA, and indeed a largely successful one. We have maintained membership, balanced our books, and critically, moved ahead in number of policy areas. The Association’s relevance and competence is increasingly recognized, and the measure of this is the demand for IMPA’s opinion and advice.

Our conference in Seoul was extremely successful and IMPA is very grateful to KMPA for their efficiency and hospitality. We were certainly pleased with the IMO Secretary General’s speech to us and his enthusiasm for our work. There is an excerpt from it on page 16.

The Staff in the office join me in sending Seasonal Greetings to all our members at the end of 2016.

Nick Cutmore
Introducing Captain Jean-Philippe Casanova

Elected IMPA Vice President by Acclamation at the XXIII IMPA Conference in Seoul.

Jean-Philippe Casanova was born on 6th December 1971 in Ajaccio, Corsica. He is married with 2 children.

Background:
Captain Casanova entered the Maritime Academy in 1990 and obtained his First Class Master Mariner Certificate in 2000. He has been an active pilot in the Port of Marseilles-Fos since 2002 and is now President of the French Pilots Association (FFPM).

Before becoming a maritime pilot, he navigated from 1991 to 2001, principally internationally, for French companies SNCM and La Méridionale. He previously embarked on ocean voyages with CGM and was chief engineer at the SRPAM (today Boluda) on the harbour tugs in the Port of Marseilles-Fos.

He did his military service as a Reserve Cadet and ended Ensign after 13 months on the surveillance frigate FLOREAL based in La Réunion Island between 1995 and 1996.

After having exercised the functions of Quality Assurance Manager at the station in Marseilles as early as 2005, then at the FFPM from 2006 to 2012, he was elected Secretary General of this professional organization in 2012. In parallel to these functions at the French Pilots Association, he was elected Vice-President and Treasurer of the European Pilots Association (EMPA) in 2013.

Beyond his functions of representation and of promoting piloting on a national as well as European or international level, Jean-Philippe Casanova is involved in numerous areas where the sea and seamen are the main concern. He actively takes part in the development of the French maritime economy through the Executive Committee of French Ship-owners (Armateurs de France) and within the French Maritime Cluster or even at the crossroads of port professions such as the French Ports Union (UPF).

He is a member of the French Superior Council of the Merchant Marine and the French Superior council of Seafarers, as well as a Knight of the Order of Maritime Merit.

He is also a member of the French Maritime Academy (ENSM). He participates on a regular basis at the sessions of IMO, the International Maritime Organization as an advisor of the French delegation.

The Fastest Dead Slow Competition
Sent in by Captain Pascal Desrochers, Mid St-Lawrence pilot

The Winner - This one is from the passenger ship Marco Polo ( ex Aleksandr Pushkin) and shows a modest 9.5 knot deadslow!

The Runner-up Seen on board the vessel AS Palatia in Montreal, Quebec: 10.9 kt.
Nautilus has raised renewed concerns over passenger ship safety following a report on the loss of a ro-ro ferry in the Bahamas in October 2014.

The 35,855gt Bahamas Celebration – a former North Sea ferry which operated a liner service between Grand Bahama and Florida – was declared a constructive total loss after suffering significant raking damage while leaving port.

The ship was found to have struck an undetermined point of the shore, losing propulsion and electrical power as a result of rapid flooding when two watertight compartments containing engines and auxiliary engines were breached.

Three tugs managed to return the vessel to its berth and passengers were disembarked ashore, with no injuries reported. However, investigators discovered that the muster of crew and passengers had not been completed. Feedback from passengers found that most had been unaware of their muster point and complained that crew were generally poorly trained and gave either no information or conflicting information.

A report published by the Bahamas Maritime Authority (BMA) said the bridge team had failed to properly monitor the track of the vessel after leaving the berth and the ship had turned in the turning basin well in advance of the position shown on the passage plan. Although the master had taken a ‘prudent’ decision to use a harbour tug in the squally conditions and with the ship’s stern thruster of no action, the services of a local pilot to coordinate the tug assist was not considered necessary.

Investigators said Bahamas Celebration had sailed with some of the watertight doors in the engine room open, in direct contravention of flag state requirements. Crew had repeatedly accepted and cancelled a VDR fault alarm in the month and a half before the accident, with no action taken to restore the equipment to working order.

The BMA said the faults were indicative of ‘imperfect implementation’ of the company’s safety management system and it recommended that it introduces audits of SMS and improve bridge team management training.

Nautilus senior national secretary Allan Graveson expressed concern about the case. ‘This incident illustrates yet again the vulnerability of passenger ships to side raking damage. Recommendation 1 by Lord Mersey following the Titanic investigation – greater degree of subdivision – should be implemented.

‘The importance of a cohesive and well-trained crew when such incidents occur cannot be overstated,’ he added.
Answering the call – partnering with the Brisbane Marine Pilots

Reproduced from The Mission to Seafarers’ Journal Flying Angel News, with their kind permission.

On 7 March 2016 Brisbane Marine Pilots (BMP) received a phone call from David Ellis, President of The Mission to Seafarers Brisbane, regarding a seafarer that had been airlifted from his ship – Phoenix Light – to the Nambour Hospital following a suspected stroke. The Filipino seafarer, Benido Matugas (Ben) found himself in a strange hospital, alone, confused, physically impaired and many miles away, and out of contact from his family and shipmates. The short term prognosis for Ben was for two weeks to be spent being observed, and a further two weeks undertaking rehabilitation before possibly being able to return back the Philippines.

Every year, The Mission to Seafarers is faced with responding to medical emergencies, recognising that most seafarers will be seeking emotional support following an accident or illness that sees them removed from their work place with no notice, finding themselves in a foreign hospital without their shipmates and with no communication with home.

In this instance, Ben was in a hospital that was not near the Mission’s Brisbane centre but located in reasonably close proximity to the Brisbane Marine Pilots (BMP) station at Mooloolaba. With a small number of resident pilots based on the Sunshine Coast, the call went out from the Mission to BMP to see if any pilots could grab a ‘hospital pack’ from the Mission and assist with attending Ben’s bedside to bring a smiling face and that much needed emotional support normally provided by the Mission.

The call was answered and without wasting time, two BMP pilots – Peter Liley and Andrew Cambridge – had dropped whatever they were doing to travel out to the Nambour Hospital to visit Ben. They provided that initial contact that brought a smile to a scared seafarer’s face, and over the following days brought small but meaningful items that would engage Ben while he lay in bed, ultimately assisting in his rehabilitation and most importantly providing a means for him to connect with his family.

Peter and Andrew continued to visit Ben in Nambour and then subsequently Caloundra hospital. Without their assistance, Ben’s rehabilitation could well have been prolonged and more complicated, given the importance of a positive psychological outlook when in hospital receiving treatment.

The response to this incident has highlighted the invaluable bond between The Mission to Seafarers and Brisbane Marine Pilots. The Memorandum of Understanding established between The Mission to Seafarers Brisbane and Brisbane Marine Pilots in 2015 has already brought significant benefits to both parties but ultimately the benefits are to the many seafarers that ply Australia’s waters and ports on a 24/7 basis, 365 days a year.

“Keep a watchful eye on Bridge Notices…….”
EU agreement on new Ports Regulation

On Monday the 27th of June, representatives of the legislative institutions of the EU successfully reached an agreement on the new Port Services Regulation. This legislation will establish a framework for the provision of port services and financial transparency of European ports.

The new Regulation will turn out to be an important legal structure for further sustainable growth and development of the important European Ports- and Shipping industries.

An important and clear signal that was given by the European Parliament at its plenary decision on 8th March this year, is that Maritime Pilotage, due to its public service obligations, should not be subject to market access philosophies. The outcome of the triilogue respects this important signal, which is well illustrated by the following justification:

“Pilotage provides an essential and unique service to the shipping industry, which if open to competition would jeopardise maritime safety and security, the protection of the environment and the efficiency of ports.”

Advanced Shiphandling in Manned Models

Massachusetts Maritime Academy offers a USCG approved Advanced Shiphandling in Manned Models course. This training meets STCW requirements for assessing Management Level Deck Officers.
Book Review -
Pilots’ Pocket Guide and Checklist

Working safely with harbour tugs - Reducing the risks in port towage.

In recent years there have been a number of high profile, tragically fatal incidents within UK and European waters during ship assisting towage operations in port. For some time there has been increased emphasis on combined training of pilots and tug crews within the UK reflecting the IMO resolution A960 and the Port Marine Safety Code. There have also been a number of erudite publications in recent years but there was something missing from the information available to tug skippers, crews pilots and Pilotage exemption Certificate holders – that was a small, readily accessible reference guide and aide-mémoire.

This pocket guide fulfills that purpose.

The guide has been written by members of the British Tug-owners’ Association drawing on industry best practice with assistance from the UK Maritime Pilots’ Association and in association with the UK Chamber of Shipping in order to promote and improve safety in harbour towage.

Published in a small A6 format with plasticised paper on flip type ring binding, it contains a wealth of advice to all involved in towage operations. Along with the advice contained within the guide are a number of checklists that those who use tugs infrequently will find of great benefit. Whilst primarily a pocket book reminder, it is also a very useful training aid for new recruits to the profession. Any PEC holder who works with ship-assist tugs should also have a copy.

If there is a downside to the publication it is its price. Whilst selling at only £10 via online purchase, for some this will be prohibitive.


Don Cockrill, Secretary General UKMPA
www.ukmpa.org

Obituary -
Captain Gordon Andrew Coates, 1953-2016.

Gordon Coates (63), tragically died during whilst boarding the vessel Sunmi, in Gravesend reach on the river Thames, on 5th October 2016. Gordon had been a London pilot for 21 years. He was an absolute gentleman, a committed professional, generous, always willing to help and give advice. He had a deep humorous side, which constantly put smiles on the faces of all those he came into contact with at work. His death has had a huge impact on both his colleagues and the London river community. This was reflected in the attendance of several hundred relatives, friends, colleagues at his funeral, held close to his family home, in the Forest of Dean, Gloucestershire. Our thoughts will always be with him and his family and loved ones, ‘Coatesy’ always respected, never forgotten.
SEAiq Pilot Enterprise Subscription

SEAiq Pilot is the only multi-platform piloting solution, combining a complete set of piloting features with unparalleled ease-of-use and is widely adopted in major ports and piloting areas around the world.

Our Enterprise Subscription is for organizations that desire premium support, extensive customization, and advanced features for their pilots; giving your questions, comments, and issues top priority.

The Benefits

Simple Billing
Receive one bill quarterly for all your users. Pricing is only US $30/month per pilot.

Multiple Devices / Multiple Platforms
Each pilot can use SEAiq Pilot on all their laptops, tablets, and smart phones. All of these have the same software and data can be easily moved between devices.

Customization
Edit all menus to display only the settings you use. Create your own Quick Settings tab that list the features that are most often used.

Advanced Chart Overlays
Display chart overlays in a variety of formats, including ESRI Shapefile, Autocad DXF files, and various forms of bathymetric ENCs.

Supports iPad, iPhone, Microsoft Windows, Android, and Apple MacOS
Supports:
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Marinetech, Genkin, PilotsTech
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A platform supply vessel grounded when it left the buoyed channel of an unfamiliar port. The vessel was aground for several hours while its crew checked for damage and then deballasted. Once re-floated, the vessel continued into port, where a divers’ survey revealed that its hull was intact but that its propeller had been damaged.

The vessel had arrived off the port during the hours of darkness and the bridge team decided to wait for daylight before entering it. The master was not familiar with the port and contacted the master of another vessel that was already alongside to obtain advice about the arrival passage. The employment of a local pilot was not compulsory and had not been considered when the voyage was planned.

During the night the wind strength increased, and a gale force wind was blowing as daylight broke and the vessel commenced its entry into the port.

The approach channel was narrow and included several turns of more than 100° around potentially hazardous shoal areas, it was well marked with navigation buoys as well as sectored shore lights.

The passage through the channel was also described in detail in the local pilot book, but the bridge team had not consulted this when the voyage plan was prepared.

As the vessel approached an alteration of course position, with the gale force wind right astern, the vessel’s turn was greater than expected, and it left the channel and grounded.

Soundings were taken and the vessel’s ballast tanks were pumped out to reduce its draught. Three hours later, the vessel was re-floated and proceeded into the port without further incident.

The owner’s investigation of the incident concluded that the vessel’s speed over the ground on approach to the turn had been excessive, given the available depth of available water and the reduced width of the channel. It also concluded that the planning, execution and monitoring of the passage were not in line with best practice and the bridge team had lost situational awareness when the wheel over position for the course alteration was missed.

The Lessons
1. Effective voyage planning requires that the elements listed below are consistently followed by bridge teams:
   • **Appraisal** of all relevant information.
   • **Planning** the intended voyage from berth to berth.
   • **Executing** the plan, taking account of prevailing conditions.
   • **Monitoring** the vessel’s progress against the plan continuously.

2. In this case several control measures, which should have been considered when the plan was prepared, were missing:
   • The arrival section of the plan did not include consideration of taking a local pilot. Even if a vessel is not subject to compulsory pilotage, when visiting an unfamiliar port with a potentially hazardous approach, it is prudent to obtain the services of a pilot.
   • The voyage plan did not include reference to the sectored lights in the approach channel, use of which might have enabled the bridge team to maintain situational awareness and prevented the grounding.
   • The local pilot book was not consulted when preparing the plan. The appraisal of all relevant information when preparing a voyage plan is essential.
   • The vessel’s charts were not marked with “no-go” areas and parallel index lines had not been prepared for entry into the port. The identification of dangers and safe passing distances are essential elements of voyage planning and would have assisted the bridge team’s ability to retain situational awareness.

Save the Date!

The XXIVth IMPA Conference will take place in Dakar, Senegal, from 23-27 April 2018. For further details see the Conference website, www.impadakar2018.com
Sense and nonsense on cruise ship bridges

By George Burkley, Executive Director, Marine Pilots Institute, Louisiana

If you have been reading the numerous cruise ship articles in our industry publications, you are likely aware that many cruise lines are restructuring the functions, navigation practices and even the titles of their bridge personnel. The Carnival companies have been probably the most aggressive in this movement, developing an experimental bridge organisation system currently being taught at their CSMART training centre in the Netherlands.

The Carnival system is described well in Captain Nick Nash’s article in the July, 2016 Seaways (Bridge Team and Pilot Cohesiveness). The emphasis is on electronic track control of pre-planned, approved routes, with the bridge crew, including the Captain/OOW (rebranded as the opera tions director), relegated to being monitors. Captain Nash describes the bridge personnel under the new system as ‘instrument navigators,’ preferably standing by in a hands-off mode while the ship is driven by a route entered into the ship’s inertial navigation system (INS).

I have been to the CSMART school and observed mariners being trained in this system. As director and founder of one of the leading mariner training centres in the United States, I have also discussed the CSMART/Carnival system with a number of pilots and ships’ crews. From what I’ve seen at CSMART, what I’ve read in Carnival, and what I’ve heard from mariners currently working on cruise ships, the concerns raised by mariners, and especially pilots, are justified. The Carnival system rests on an openly expressed desire to replace shipboard humans with machines and shore-based control systems.

Pilots and the law
So, you might ask, why talk to pilots about the cruise industry’s new navigation ideas, and why should pilots care how cruise ships organise their bridge teams? Well, eventually cruise ships must come to port, and there they will take a pilot. That is where the new organisation schemes become clunky and in many places illegal. Let’s address the legality of the situation. The Carnival/CSMART system prefers that ship officers do not give the conn to the pilot, but rather limit the pilot to, as Captain Nash says, “an ‘indirect’ or advisory role”. This notion is contrary to the normal practice and law in many ports in the world, in which the pilot is compulsory, and the law requires that the pilot directs the movement of the ship. Although it is not considered unusual for cruise ship officers to manoeuvre their ships in certain situations while under pilotage, given the unique propulsion systems aboard these vessels, directing the movement of a ship and physically controlling her are different things. In ports with statutory required compulsory pilotage, such as in the United States, the pilot by law must maintain control of the direction of the movement of the ship at all times.

The ship’s bridge team may execute a turn in the channel as directed by the pilot or execute any other manoeuvre, including a docking manoeuvre, as requested by the pilot who is directing the movement of the ship. But regardless of the physical actions on the ship, the pilot is the lead navigator and has the ‘conn’. The pilot thus is in control of the direction of the movement of the ship. Only a ship’s Master can displace a pilot, and only under grave situations such as in incapacitation, manifest incompetence or if the ship is in extremis due to the pilot’s actions.

Command-respond-confirm
Even when pilots on cruise ships take the conn, as required by law, they are finding that the bridge teams have been trained to question all commands before executing them. This is contrary to the common practice where by a pilot gives a command, and it is then repeated and executed. Pilots are trained to stay in the command-respond confirm ‘loop’. The pilot, especially in tight, busy waterways, will give commands and expect an answer and immediate action. The pilot stays in the loop by observing the helmsman turn the wheel in the correct direction, using practised glances to observe the rudder angle indicator is moving the correct way, and keeping primary focus out the window to stay oriented. This is a trained visual scan by the pilot, to stay in the loop, to trap errors, and to efficiently give quick sequential commands in situations where a few hours of pilotage may entail thousands of commands.

Imagine the pilot orders a heading change of about five degrees to starboard. ‘Come to starboard and steer 300’, sounds the pilot. The co-navigator manning the mini wheel responds, ‘Starboard to 300?’ with an audible question in their voice. It was a simple command, and pilot quietly wonders, ‘Maybe the helmsman can’t hear me’. Before the pilot can answer the co-navigator’s question, the navigator and perhaps other members of the bridge crew call out, ‘Yes’. Only then, after the ‘yes’ is proclaimed, will the co-navigator execute the pilot’s command and change the heading. Thus begins the pilot’s day of giving commands that are systemically questioned before being agreed to by others. This process for conning the ship has now doubled the amount of words and time needed to complete the job and further involves a third party participating in the command dialog.

The role of the pilot
It would be easy to focus on this verbal exercise being played on the bridge as the major problem. However irritating it may be to experienced pilots, it is not the major problem. In the process of changing the bridge leadership and staffing organisation, many cruise ships are trying to force a change in the role of the pilot. According to Captain Nash and other proponents of the Carnival/CSMART system, the preferred role of the pilot is as an advisor to the bridge crew, neatly tucked away in the back of the bridge while the navigator and co-navigator con the vessel. Captain Nash has even suggested that the pilot is like ‘having a London cab driver in the passenger seat of your car’ to assist in finding your way around the city. It is time to put the brakes on this idea and get a reality check on the role of the pilot.

Pilots have two essential roles, and these roles are increasingly being challenged by cruise ship operators who are changing their bridge team structure. In the first role, the pilot protects the ship from the dangers of the port. Pilots are expert shiphandlers, with expert local knowledge and are ready, when ever necessary, to use tugs and
methods unfamiliar to most ship’s crew. For many ships, especially those that are nearly helpless in the tight confines of a port without tug assistance, the pilot conns, directs the tugs in coordination with directing the movement of the vessel. Clearly in this first role, pilots are shiphandling specialists.

In the second role, pilots protect the port from the danger posed by the ship. No port wants a marine disaster shutting down its waterway. Thus the pilot is commissioned with the responsibility of using independent professional judgment to direct the movement of a ship safely and efficiently in the public interest. Here is where the cruise lines and their experimental bridge team systems are failing to appreciate the role of the pilot. It is agreed that cruise ships, especially those with pod propulsion and lots of thrusters, rarely need the services of tugs. Cruise vessels may have their own expert shiphandlers, who excel at handling and docking their own cruise ships. But if the pilot holds the ship at the dock or seabuoy due to fog, or delays a sailing due to wind, or adjusts a ship movement due to traffic, these are judgments made by the pilot, external to any commercial pressure, to protect the people, environment and marine infrastructure of his or her licensing authority.

The cruise industry might want to look to the petrochemical shipping industry, which has undergone a safety revolution in the past 30 years. Tankers, LNG ships and the like now foster a sustainable safety culture while maintaining efficiency and profits for their companies. These ships are not experimenting with maritime org-chart blue-sky thinking or systemically relying on fancy navigation guidance systems over people. These ships have tough, dedicated Captains and senior staff, and the companies hold officers and crew accountable for safety first above all other concerns.

Creating a true safety culture in the cruise industry is far more difficult than installing identical bridge equipment across 20 cruise brands and forcing navigation teams to talk in scripted, questioning tones. A real safety culture requires authentic respect by the corporate side of the company in deference to the judgment and decisions of the Captain of the ship. It is the responsibility of the company to select a Captain with a lifetime of leadership and judgment who deserves the respect of autonomy, deserves the respect to operate without constant meddling oversight, and deserves the respect of not having corporate social experiments foisted on the conduct of the ship’s bridge team. If the decisions made aboard the ship cause schedule delays, even aboard a cruise ship in which schedule is a top priority, then this decision is respected.

From a pilot’s perspective, cruise operators enacting bridge team changes should re-think their organisational strategy and the actions of their experimental bridge team structures while in pilotage waters. Pilots believe it is necessary to involve the Captain in the act of navigation, especially in the essential Master-Pilot Information Exchange (MPX). Pilots believe it is time to re-think the use of ‘yes’ pro forma responses on the bridge in busy pilotage waters. Perhaps a simpler, traditional command approach is better.

It is also time to respect the role of the pilot as required by law, giving pilots the conn, responding to their orders without automatic questions, and providing quick and ready access to all relevant navigation assets to provide a correct environment for the pilot to direct the movement of the cruise ship in cooperation with the ship’s bridge crew.
Fall Overboard of a Pilot Boat Deckhand


On 21 July 2015, Saluzi, a 1739 gt passenger ship was embarking a pilot in moderate to rough seas for the Port of Haiphong, Vietnam. The first two attempts to embark the pilot were unsuccessful. With Saluzi now heading 240°, a third attempt was made at 1315. An image captured by the ship’s CCTV, showed five persons standing on the deck of the pilot boat Rang Dong 1, as she made her approach to come alongside Saluzi.

The pilot and the deckhand were standing on the port side of the pilot house. The pilot boat, under the influence of the swell, was highly unstable. Before the pilot could step on the pilot ladder, Rang Dong 1 dropped and moved under the flare of the ship’s hull.

As the pilot boat came up on the crest of the next wave, the pilot and the deckhand were crushed between the pilot house and the ship’s hull. Both were injured and collapsed on the deck of the pilot boat. The pilot, however, managed to pull himself up into the safety of the boat’s bow but the deckhand, who was bleeding profusely from the head, fell into the rough sea. The chief mate on board Saluzi, observing the accident from the ship’s embarkation point, immediately informed the master and rushed to the bridge.

The pilot boat moved out and stopped a short distance away from Saluzi. Shortly afterwards, and without communicating or raising any emergency alert, the pilot boat departed for the port. Saluzi, which was by then rolling heavily, set course for the outer anchorage area.

Whilst underway, Haiphong Port Control called Saluzi and requested search and rescue operations for the missing deck hand. At 1436, Saluzi was instructed by the pilot station to stop the search and rescue operations and follow Asiatic Eclipse into the channel entrance. These orders were soon revoked by the port control, although at 1530, a man overboard emergency radio broadcast was made by Haiphong Radio, which called upon all vessels to keep a look-out and render assistance in position 20° 39.14´ N 106° 53.52´ E. At 1623, Saluzi was requested to start again the search.

By the time the search and rescue operations by Saluzi were called off at 1721, the deckhand remained missing and has never been recovered from the sea.

The Marine Safety Investigation Unit established that on account of the hull design, the pilot boarding arrangement provided by Saluzi was not compliant with the relevant SOLAS requirements.

The MSIU has issued five recommendations to the Company and Haiphong Port Authority aimed to address man overboard situations and safe pilot transfer.


Recently IMPA Vice President Ricardo Falcao and Secretary General Nick Cutmore were interviewed on board HQS Wellington by Brazilian journalist Nivea Domingues Alves Francisco and you can see a video clip on: https://www.facebook.com/ricardo.falcao.961/posts/10211165966283411
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-CAPTAIN ALISON BUCKLER, MARYLAND PILOTS

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IMPA’s XXIIIrd Conference was held in the historic city of Seoul, Korea from 26-30 September 2017.

With 35 high-calibre speakers covering a wide range of topics including sessions on Training, Technical, Legal and Safety matters, delegates were able to take away a wealth of information. The Keynote speech by Mr Ki-tack Lim included the following words:

“Our work together is founded on a number of shared beliefs and objectives: that pursuing maritime safety should be free from commercial pressure; that IMO is the primary authority for safety matters affecting international shipping; that existing and emerging technology is key to enhancing on-board decision making but cannot replace the human element; and that increased communication and knowledge sharing is essential if we are to make real progress.”

Conference presentations, photographs and the Minutes of the General Meeting are available on the Members’ area of the IMPA Website.
Mr Kitack Lim, IMO Secretary General, delivers Keynote Speech.

A Tour of Gyeongbokgung Palace.

Plenary Session of the IMPA Conference.

Delegates at work.

Mr Gurpreet Singhota, (Emeritus Deputy Director/Head, Operational Safety Section, MSC Division, and Secretary of the Safety of Navigation, IMO) and Mr Kitack Lim, IMO Secretary General.

1-8, Capt Stein Inge Dahn, IMPA President, Johannes Sivertsen, President Norwegian Pilots Association, Don Cockrill UKMPA Secretary General and John Peirn, UKMPA Chairman.
Resilient PNT—If not eLoran, then what?

By Dr Nick Ward, C Eng FRIN AFNI, first published in Trinity House FLASH Issue 25, summer 2016, and reproduced with their kind permission.

IT IS GENERALLY AGREED THAT RESILIENT PNT (Positioning, Navigation & Timing) is essential for the maritime sector. E-navigation and newer developments, such as sea traffic management and autonomous ships will not be viable in the long-term, without totally dependable positioning and communications. However, there is little consensus on how to achieve resilience. eLoran has been demonstrated as an effective terrestrial complement to GNSS, but some European countries have switched off their Loran transmitting stations, which are essential to the future provision of eLoran.

Need for resilience
Shipping, in common with other transport sectors and wider industry has become heavily dependent for positioning and timing on Global Navigation Satellite Systems, in particular GPS. By their nature these satellite systems provide an extremely weak signal at the Earth’s surface. These signals are vulnerable to disruption, by natural causes, such as space weather, accidental interference and deliberate jamming. Since all GNSS share the same frequency bands and low power, having more than one system provides limited benefit. Resilience can only be achieved by providing complementary, but dissimilar systems.

Alternatives to GNSS
The options include high power terrestrial systems operating at lower frequencies, radar and non-radio systems. eLoran is the most advanced of the terrestrial alternatives. It has been shown to meet IMO requirements for the port and harbour approach phases, as well as coastal navigation. It relies on very high power, low frequency transmissions, with long ranges. Another option currently being explored is R-mode, ranging on existing transmitters, in particular medium frequency radio beacons and AIS (VHF). Radar positioning has been evaluated and shown to provide good accuracy, but only at limited ranges. Non-radio alternatives include inertial systems, which can also give good accuracy, but for limited periods, so they are useful for stabilising output from other systems and coping with brief outages, but do not provide long-term resilience.

eLoran status
Initial Operational Capability (IOC) of eLoran was established for seven major ports on the East coast of the UK in 2014. This gave positioning accuracies of 10 metres (95%) in the ports and their approaches, with accuracies in the region of 50 m along the coasts. This meets the requirements set out in IMO Resolution A.1046(27) for a World Wide Radio Navigation System. However, moving to Full Operational Capability (FOC) depended on the continuation of transmissions from the other European stations, in France, Norway, Germany and the Faeroes. Therefore the termination of transmissions from these stations puts the planned FOC for the UK in doubt. Meanwhile the US appears to be moving towards reversing its decision to close down Loran transmissions, in order to provide a backup to GPS, initially for timing, but eventually for positioning too.

Loran systems also exist in other parts of the world, notably the People’s Republic of China, the Republic of Korea, Russia (Chayka), India and Saudi Arabia. A contract has been awarded for development of eLoran in the Republic of Korea and proposals to modernise systems to provide eLoran are at different stages of development in other countries.

R-mode
Ranging mode has been demonstrated on an MF beacon in the Netherlands and test results are promising. However, considerable work is still needed on technical development, frequency and coverage planning and regulatory arrangements. The advantages of this option would be its world-wide applicability, although coverage would depend on station availability and geometry. Ranging on AIS transmissions has yet to be demonstrated and there may be fundamental limitations on accuracy and range. Given a suitable multi-system receiver, ranging signals from different sources could be combined, together with those from Loran, to provide a much more widespread service.

Radar positioning
Trials carried out in the EfficienSea and ACCSEAS projects demonstrated that good accuracies could be provided using range and bearing from a specially designed, digital radar, in conjunction with enhanced radar beacons on shore.

The radar beacon or racon signals were modulated with information on their identity and/or location to allow the processing in the radar to produce a fix. Usable ranges were limited to about ten miles from the coast and the number of enhanced racons required would be large. However, the major obstacle would be the need to replace or modify all the existing radars on ships, making this a difficult and very long-term solution.

However, another approach being explored is the use of ‘map matching’ using added processing in the radar to recognise the coastline and provide a position from the map developed. This could be an automatic ‘learning’ process, using other sensors as references. There is considerable technical development work required and there would still need to be some modification or added equipment to existing radars.

Non-radionavigation options
Inertial systems, using gyroscopes and accelerometers, have advanced in recent years, but mainly at the lower end of the market, with micro-electromechanical systems (MEMS) devices providing low-cost sensors for land vehicle and personal navigation. At the higher end, navigation grade inertial devices remain expensive and still do
not have the long-term stability needed for a full back-up to GNSS. Some experts believe that there are fundamental barriers to such an application, but in any case it appears to be some way in the future. Another solution for the future could be quantum devices, tracking the perturbation of atoms using lasers, on which considerable research effort is being expended.

The use of visual marks is another non-radio possibility and a working prototype of a relatively low-cost ePelorus has been produced and demonstrated. This makes use of existing visual aids to navigation and other landmarks, in conjunction with an electronic chart to establish the user’s position, using a self-contained, onboard device. It is of course limited by visibility and the availability of suitable marks.

**Future direction**

It seems unlikely that a worldwide consensus can be reached on a single backup system for GNSS, however, agreement on the need for resilience seems to be growing stronger. One relevant development is a new performance standard agreed in IMO for a multi-system receiver. This would use whatever positioning signals are available – multi GNSS, or terrestrial – to arrive at the best position, carrying out integrity checks to ensure that erroneous information does not degrade the solution. This could be the most practical approach to real resilience in positioning and timing.

It is little appreciated that the bridge window is regarded as a navigational aid. In the words of Captain Ian McNaught, Executive Chairman of Trinity House, writing in MAIB Safety Digest 1/2016: “Please look out of it, get out of your chair regularly and check the view out of the window. Doing so will give you the best view of the situation around you and that feeling of spatial and situational awareness that will help you make the best decisions to ensure a safe passage, backed up by the information on screen.”

“Nice Day for a Cruise” by David Lyon, taken off Newhaven East Sussex, UK, was the winner of the Shipwrecked Mariners’ Society photography competition.
Welcome Aboard, Pilot

This photo of the ‘solution’ to a too-short ladder was sent in by Jan Pieter Muys, Scheldemonden Pilot, who wisely refused to board the MV Anmiro V2DR9 at Steenbank near Flushing, Netherlands, until the vessel took on one metre additional draught to enable him to board safely.

Reeled Ladder Safety Alert from MOL

We received a master’s report that the vessel’s pilot ladder suddenly fell down to the end of the ladder due to a broken pilot ladder reel shaft when preparing it for pilot disembarkation, as shown in pictures below. Fortunately, there was no fatality or injury.

Expected Root Cause

The vessel used the pilot ladder without securing the ladder on the deck, as is normal practice. This caused the load of the pilot ladder plus the pilot to be applied directly to the air-motor and cup ring of the reel. After being used several times in this way, the shaft finally broke and the pilot ladder fell down to its end. The details of this trouble are still under investigation.

Lessons learned

1. The pilot ladder should be secured in the proper position in order to minimize the direct load on the reel. (Refer to the pictures below.)

2. The responsible officer should confirm the situation before a pilot embarks and disembarks.

3. Periodically check and maintain the pilot ladder, including the shaft and motor.

4. Ensure crew members who prepare the pilot ladder understand the appropriate procedure at every opportunity, and educate them accordingly.
Ship manoeuvring on approach to a lock: power loss, poor communications and design

Reproduced from CHIRP Maritime Feedback Issue No. 43.

This article outlines a pilot’s experience on approaching a lock. Slow response to his order for astern power, poor communication and ship design issues all come to light.

What did the reporters tell us?

Whilst manoeuvring a large pure car carrier (PCC) into a lock, with the stern tug at 100% arresting power, more deceleration was needed. An astern engine order was given, but the vessel was slowing very slowly. The pilot was not told that the main engine had failed to start twice. At this point the Master, rather distraught, asked if the after tug was pulling. In response to a direct question, the pilot was then informed that there was a problem with the engine. The pilot took emergency steps to stop the vessel by laying her against the rubber coping fenders to act as a friction brake. At this point the main engine started astern and the vessel was stopped and moored. Wind at the time was well under the limiting speed for sailing. The ship’s high minimum speed was another potentially complicating factor.

Visibility along the side of the ship was limited, and communications across the bridge difficult. The distance from centre line to bridge wing was of the order of 16 metres, and key instruments at the conning position were in three different positions.

What did the ship’s operators tell us?

For environmental reasons newer electronic engines have reduced fuel injection when starting up. If the engine misfires, it will automatically try again after 10 seconds with a slightly increased fuel injection. According to the company’s internal report, that is what happened in the lock and is normal. When proceeding at a low speed in narrow waters, this can of course be seen as a potential hazard; the standard procedure is therefore to have the thruster(s) ready for use in addition to sufficient tugboat assistance (in this case three in total). The company believes that both of these requirements were fulfilled. All three control positions (centre line and wings) are identical. With a beam of 36.5 metres, this particular vessel follows the ‘New Panamax’ standard. The company forwards the vessels’ details to agents in good time before arrivals.

The Lessons to be Learnt

Main propulsion. Modern propulsion systems with potential in-built delays and high minimum speeds present considerable complication and risk when manoeuvring at close quarters (for example approaching locks). The characteristics need to be carefully briefed and understood between Master and pilot in advance. A propulsion test should be part of pre-arrival checks. Communication. Very wide bridges complicate verbal communication; a procedure for conning and use of bridge wing control positions needs to be agreed and tested well in advance. This would have facilitated an alert to the pilot about the engine’s failure to engage astern.

The master-pilot information exchange is a crucial factor; see ‘CHIRP suggests’ below. Visibility. Lack of clear visibility down the ship’s sides was a serious limiting factor for the pilot. He and the Master found they had to move rapidly between positions. Ship design. The reporter makes strong points in relation to visibility and communication on modern very large ships, minimum ships’ speeds, and the ‘engine fail start’ dimension which (though explained by the 3rd party) represents a major risk in close manoeuvring. Failure to share best practice and ship design implications are also suggested.

CHIRP Suggests

Give high priority to timely pre-arrival checks (control position change overs, and machinery control for example), and to a comprehensive master-pilot exchange covering procedure, the sequence of events, engine control and limitations, the overall plan, recent defects and action in the event of potential failures. User input in design, and the practice of ships’ crews standing by on build, have in many areas been diluted; at the very least experienced deck officers including pilots should be involved in the design of conning positions, especially in major shipyards which build standard design ships. This should embrace issues such as visibility from bridge wings, and – more broadly – machinery control.

“A shocking sight on the bridge of a 77,000 ton bulker negotiating the St Lawrence River. IMPA passed this to a very sheepish ICS delegation at IMO recently.”
Bow Tug Operations with Azimuth Stern Drive Tugs

NEW - Third Edition available now.

The first edition of the monograph Bow Tug Operations with Azimuth Stern Drive Tugs was published in 2006 – in response to a number of accidents involving bow-to-bow operations with ASD-tugs and discussions in some ports about how such tugs should be employed as bow tugs. What were the causes of these accidents?

No proper training, unsuitable design of the ASD-tug for bow-to-bow operations, high ship’s speeds, or were some other factors playing a role? At the same time, the question arose about whether every ASD-tug is suitable for bow-to-bow operations, which seemed not to be the case.

Bow tug operations at a ship having headway are very risky, particularly in the case of ships with a very high speed on dead slow ahead – a situation increasingly seen with large container vessels. The problem starts with the approach towards the bow and then with the procedure of passing the towline. Because of the risks involved, tug masters that have to carry out bow tug operations, and particularly tug masters of ASD-tugs that have to operate bow-to-bow, should be well trained and aware of all the possible risks.

These issues are all dealt with in this book in an easy understandable way, resulting in a set of guidelines for safe operations at the bow.

In 2016 the issue is still relevant. This third edition has been updated for several crucial aspects that play an important role in bow-to-bow operations, such as skeg and stern design. As the skeg is such an important appendage for carrying out bow-to-bow operations at a ship having speed, more attention has been paid to skeg design and the effect of differences in skeg design on bow-to-bow operations.

A good stern design is also important for bow-to-bow operations, so stern design has been further dealt with here. Further subjects have been extended or renewed: proper radar use, bow approach manoeuvres, and new tug performance diagrams have been included. As bow-to-bow operations present high risks, additional attention has been paid to this particular issue.

Suggestions for some test trials using your own tugs have been added in order to be able to learn about its specific suitability for bow-to-bow operations, with images explaining the trials discussed – all again focusing on the safety of tugs, tug crews and attended ships.

Finally, since speed, which means speed through the water, is so critical for safe bow tug operations, renewed attention has been paid to this important aspect.

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Autonomous Vessels by Captain George Quick

Reproduced from Maritime Executive, 31 October 2016.

There has been a good deal of discussion recently suggesting that unmanned, autonomous ships represent the future of the maritime industry. The discussion has been primarily driven by EU-funded research that sees autonomous, unmanned ships as a key element for a competitive and sustainable European shipping industry in the future.

The EU has had a long-term goal of making short sea shipping more competitive with road and rail transport, which is under stress from the transportation bottlenecks caused by increasing volumes of internal trade. Faced with massive infrastructure costs to upgrade road and rail, the EU is making a concerted effort at the policy level to move large volumes of cargo from land to the “motorways of the sea.”

The discussion has also been influenced by ambitious press releases from equipment manufacturers and potential service suppliers, who are expanding the concept to include a proposed automated global shipping industry. This would create a new market for vendors, but it is not driven by user demand.

There is little doubt that advances in information and communications technology and robotics will impact the maritime industry and accelerate changes in the way ships are operated. We have already seen the effects of automation in the manufacturing and distribution sectors and the massive changes they have brought.

The concepts underlying autonomous ships are based on the “Industry 4.0” (1) model recently developed in Germany, in which cyber-physical systems would monitor sensors, create a virtual copy of the physical world and permit decentralized decisions. Its goal is managing automated production within a “Smart Factory” and the integration of multiple factories, suppliers, distributors and consumers through the internet of things or services. But it is questionable whether a model developed for a controlled manufacturing environment can be transplanted to the dynamic, global, uncontrolled and open maritime environment.

Given both the unique nature of the maritime industry and the exponential growth in the application of technology, any attempt to predict the extent and consequences of automation is speculative at best. Any change will come in stages, and each stage will require evaluation.

One stage will certainly include remote monitoring of all functions aboard ships with far greater shoreside management of shipboard operations. To some extent, for certain functions, remote monitoring has been around for decades. Cost considerations and bandwidth have limited factors, but now that is changing. Efforts at the International Maritime Organization (IMO) to develop and implement technology to support e-Navigation – including interoperability and harmonization of information between ship and shore – could potentially be a precursor to remotely controlled ships. That raises, at least as a concept, the possibility of truly autonomous, unmanned ships making their own decisions using artificial intelligence. While this seems like fantasy at the present time, given the increasing capabilities of technology it cannot be completely ruled out as a possibility in the decades ahead.

The pace and extent of how this will all evolve in international shipping will primarily be determined by economics and risk factors. It is anticipated that the cost of building a ship with the required technology and redundancies for remotely controlled operation may be higher than that of a conventional ship, even with the elimination of the crew’s accommodations. The system would also require shoreside infrastructure with a global reach for monitoring and control, as well as expensive shoreside support for maintenance, repairs and functions now carried out on conventional ships by seafarers from relatively low-cost-labor-supply countries.

Can the additional costs of an autonomous system be offset by substantial reductions in crewing costs, or their complete elimination? If not, there is no economic justification for ship owners to shift to autonomous ships.

It is estimated that crewing costs are only about six percent of the overall cost of running a ship. (2) Capital costs are about 42 percent and voyage costs, including bunkers, run about 40 percent. There can be no doubt that shipping is capital intensive rather than labor intensive.

Even if all manning were to be eliminated, it is not at all clear how the relatively minor savings in crewing expenses could compensate for the additional costs of building and operating a remotely controlled autonomous ship system and its supporting shore side infrastructure.

There has been a disturbing degree of enthusiasm in some circles for autonomous ships, which would create massive unemployment of the world’s seafarers and disrupt the economy of the maritime labor supply countries, all to achieve a rather minor reduction in the cost of shipping. But so far there has been a noticeable lack of enthusiasm for autonomous ships among shipowners: perhaps they have a better grasp of the economics than the enthusiastic proponents.

Maersk has indicated that it may be looking at some form of autonomous ships in the 2030-35 timeframe, which would coincide with the end of the useful life of their recent newbuilds. But ship owners will only embrace autonomous shipping if it is commercially viable and they can gain a competitive advantage by eliminating the costs of seafarers. As we see from the statistics, however, the extent of any cost reduction accomplished through cuts in manning would be limited at best.

Advocates of autonomous ships are attempting to justify their position based on a shortage and a fictional lack of competency of seafarers. They propose a “solution” they say would lower costs and increase safety through eliminating seafarers and with them the risk of human error. They fail however to acknowledge the very real risk of introducing new sources of error in technical systems, communication links, cyber security and remote human controllers who are isolated from the reality of the ship and its actual environment: the greater the complexity, interdependencies and links within a system, the greater the opportunity for errors and failures.

We should be skeptical of optimistic projections of the future benefits and efficiencies of autonomous ships that are based on the aspirational views of advocates who have a commercial stake in creating a market for an autonomous ship system. A great deal
of investors' money has been lost in the past through bets on over-hyped expectations regarding new technology. The “Dot-com” bubble of 2000 is a good example.

There is also a misconception that complex, highly automated systems require highly skilled operators. But neither the experience of other industries nor the academic literature support such a view. As the technology assumes increasingly complex functions, there is a downsckilling of operators who become dependent on highly automated, self-regulating systems. The more automated the system, the less is required of the human operator since basic competencies and lower level decision making functions are built into the technology.

The human operator loses the opportunity to develop through experience the deeper skills and talents, such as assessment and judgment. (3) The problem with machines that think is that they give rise to people who don’t need to think. This presents a significant challenge in the dynamic and complex maritime world, where assessment and judgment, based on experience and total situational awareness, are fundamental to making the “right” decisions – often under tight time constraints – that can spell the difference between a safe passage and disaster.

Replacing skills and active participation with the boring task of monitoring displays can lead to a dangerous level of complacency. When things go wrong, the handover problem between the automated system and the compliant, uninvolved human operator—with degraded skills and situational awareness—has proven to be a major problem. The significance of this problem has been demonstrated in the air transport sector and other industries.

There is, in addition, the need to take a much broader view of automation, beyond its impact on the maritime sector. What is required is a realistic view of automation’s social and political consequences in the world at large. The assertion that technology is a purely benevolent force, whose only impact on society is a positive one, is clearly erroneous. There is no economic law that says that everyone, or even most people, will inevitably benefit from technological progress. Technology is neither good nor bad. Unlike humans, it has no moral or ethical values.

Technology is a powerful force that can destabilize institutions and industries, upset the social contract between capital and labor – as well as the traditional employer/employee relationship – with profound consequences. The changes it brings have been compared to a fourth industrial revolution. (4) And there is considerable concern in academic circles regarding technology’s impact on the future of our society, on our economic system and on our political institutions. The issue is not solely of concern to people being replaced by technology; this year at the World Economic Forum at Davos, it was the main topic of discussion among global leaders.

Academics estimate that as much as 50-70 percent of the labor force can ultimately be replaced by technology. The gains that automation produces from increased productivity with lower labor costs primarily benefit the capital investors who own and control the technology. The resulting profit-concentrating effects, coupled with technological unemployment or under-employment, are largely responsible for the increasing inequality of income that is creating social tensions and political turmoil in the United States and elsewhere. Globalization has been the ready scapegoat of politicians, but technological unemployment is responsible for much of the problem.

Technology-generated income inequality is also a threat to our free market economic system because it reduces consumer demand by reducing the number of consumers, principally workers, with the ability to purchase goods. Our free market system is based on consumer demand driving manufacturing and production. In past industrial revolutions (steam, mass production, electricity) an increase in demand created more jobs in production. Those jobs would in turn increase consumer spending and drive up production. In the fourth industrial revolution, with technology replacing workers, this classic economic principle no longer holds true. The cycle between consumer demand, production and jobs has been disrupted. Automation now allows for a scaling-up of production coupled with little if any increase in the number of jobs. This is evident in the economic data: Corporate profits and the stock market go up, while worker income and consumer demand are near stagnant.

The factors of primary concern to society are: the consequences of the change in the nature of work (or even its elimination); the distribution between capital and labor of the enormous gains in productivity that derive from technology; the preservation of the traditional employer/employee relationship, which provides stability and social benefits; and the effect on the future of society as a whole of technology and robotics replacing or down-skilling workers.

In a globalized industry, these are not issues that lend themselves to easy solution. They involve economic and political issues – which impact the society as a whole – regarding the distribution of productivity gains derived from technology. In our democratic free market system, individual economic decisions are determined by self-interest. Matters of common interest to the welfare of society at large should be addressed on a political level through good governance. The negative consequences of the disruptive power of technology may not be the fault of technology, but the failure of government policies to address its impact on society.

Where technology ultimately takes us will be decided within political institutions, legislative bodies, regulatory agencies and international organizations such as the United Nations and the IMO. What is needed is a common understanding of the issues and a coordinated effort to protect not only the interests of seafarers and workers but also the future of our society as a whole.

These thoughts have touched primarily on the broader economic and social issues. There is a great deal more to be said on the technical aspects—legal and regulatory, ultimate responsibility and liability for risks, human factors and man/machine interface issues, software quality, cyber security, reliability of the communication/data links, and engineering, sensor and technical systems—that will be left for another discussion.

Capt. George Quick is Vice President of the Pilot Membership Group at the International Organization of Masters, Mates & Pilots (MM&P). He serves on the delegation of the International Transport Workers Federation (ITF) to the IMO Maritime Safety Committee, the IMO Legal Committee and the IMO Facilitation Committee.

Sources:

(1) “Industrie 4.0” originated in a working group organized by the German government to promote the computerization of manufacturing. The final report of Working Group Industry 4.0 was presented in April 2013.

(2) Martin Stopford, “Marine Economics (Third Edition),” page 225. Based on data for a Capesize bulker. At today’s bunker rates, my rough calculations are that manning costs fluctuate between 3% and 5%, depending on the volatility of bunker rates and their impact on voyage costs.

(3) “The Glass Cage, Automation and Us” by Nicholas Carr.

The Australian Transport Safety Bureau (ATSB) Transport Safety Report on a grounding on 17 October 2016 which highlighted failures in bridge resource management and pilotage planning

Safety Summary.

What happened
At 0400 on 28 February 2015, a harbour pilot boarded a container ship for its passage into harbour. The pilotage generally progressed as intended by the pilot until the ship approached the entrance channel 40 minutes later. At this stage, he became concerned that the assisting harbour tugs would not be at the channel’s entrance before the ship.

At 0442 3/4, the pilot decided to delay entering the channel by taking the vessel outside (south of) the channel and entering it later. At 0448, the ship grounded in charted shallow water. The ship did not suffer any damage and was re-floated on the rising tide about 3 1/2 hours later.

What the ATSB found
The ATSB investigation found that bridge resource management was not effectively implemented on board the vessel. As a result, the ship’s bridge team was not fully engaged in the pilotage and did not effectively monitor the ship’s passage. While the master retained responsibility for safe navigation of the ship, the harbour pilot was the only person actively focused on the pilotage. Consequently, single-person errors that occurred went undetected or inadequately challenged and uncorrected.

The investigation identified that the Pilots’ publicly available passage planning guidance for the pilotage was inadequate and was not effectively implemented. Further, their pilotage procedures did not include abort points or contingency plans for identified risks.

The investigation also found that procedures for tugs to be on station at the entrance to the port, or for their co-ordinated movement, were not clearly defined.

What has been done
The port’s pilotage provider has reviewed and updated its website, procedures and training with respect to pilotage, passage planning and communications. This includes simulator training for emergencies.

The towage provider has updated its procedures to include defined on-station times for tugs.

The port authority, has advised that it has clarified the role of the vessel traffic service in assisting ship arrivals and berthing.

The safety actions noted above, together with joint simulator exercises, clarify the roles and responsibilities of all parties with respect to monitoring and management of pilotages. This increases safety margins and reduces the likelihood of a similar incident in the future.

The vessel’s managers have issued fleet circulars to emphasise and clarify the roles and responsibilities of the master and ship’s crew during navigation with a pilot on board. The managers have also implemented a fleet-wide program that includes education and auditing to ensure compliance with bridge procedures.

Safety message
Comprehensive passage planning that includes risk-assessed contingency planning is vital to safe pilotage and underpins effective bridge resource management. The potentially severe consequences of a pilotage accident means that a low accident rate in the past is not a reliable indicator of safety risk.

Nick Cutmore attended the New Zealand maritime Pilots’ conference which took place in Auckland New Zealand, from 15-18 November 2016.

It included representatives from some 11 Pacific islands, USA, Canada and Australia. It was a fantastically well organised, thorough and thoughtful event.
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- Our DGPS ship tracking system for manoeuvre debriefings
Reproduced from the MAIB Safety Digest 2/2016.

A pilot ladder failed on board a large roll-on roll-off passenger vessel during a routine harbour pilot transfer evolution in sheltered calm seas. A pilot was on the ladder at the time but was uninjured.

The vessel, operating on a regular route, departed port with two pilots on board: a senior pilot and a pilot under training. As the vessel approached the pilotage departure point, the two pilots made their way to the port pilot door, where the crew had already rigged a pilot ladder. The master had informed the harbour authority that the pilot ladder had been rigged in compliance with SOLAS requirements and the pilots had used it the previous day.

When the pilots arrived at the pilot door their launch manoeuvred into position and the senior pilot climbed onto the ladder. Once on the ladder, the senior pilot descended it, and transferred to the pilot launch 3.5m below, without incident. The trainee pilot then followed the senior pilot, but as he descended the ladder, the launch’s rubber fender made light contact with its bottom rungs. This caused the side ropes at the top of the ladder to part. The trainee pilot fell a short distance to the deck of the launch and was grabbed by a crewman who prevented him falling overboard. The ladder fell into the sea.

The pilot ladder was 18 months old and was permanently connected by shackles to the deck within a small pilot boarding well. When the remnants of side ropes (Figure 1) were inspected after the accident, the ladder was found to have failed at the point the side ropes passed over the lip of the pilot door frame, and the core of the manila rope was found to have suffered severe degradation. The port pilot ladder was not used as often as the starboard ladder and, unlike the starboard pilot station, the ropes had not been protected from the door frame’s sharp edges (Figure 2).

The trainee pilot was very lucky not to have been injured or to have fallen into the sea. The use of pilot ladders during pilot transfers is a hazardous activity, and there have been many similar incidents to this in the past. The key safety lessons identified in this and other cases include:

1. Ship’s crew must make every effort to ensure that pilot ladders and other boarding arrangements are well maintained and rigged safely; this is particularly important as pilots boarding a vessel cannot check this before stepping onto a ladder.

2. It is important to note that manila rope tends to wear from the inside through self-abrasion, therefore a rotten rope might appear to be in good condition externally.

3. Ship’s crew should also ensure that pilot ladders are rigged in accordance with SOLAS requirements and make every effort to protect the ladders’ load bearing side ropes from tight bends and sharp edges.

4. Pilots should always closely inspect pilot ladders and their securing arrangements before using them to disembark a vessel.

The International Chamber of Shipping and International Maritime Pilots Association have published: Shipping Industry Guidance on Pilot Transfer Arrangements for ensuring compliance with SOLAS. It can be found at: http://www.ics-shipping.org/docs/default-source/resources/safety-security-and-operations/shipping-industry-guidance-on-pilot-transfer-arrangements.pdf?sfvrsn=6
THE BETTER OPTION

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