SEATIMES

The Newsletter of the Nautical Professional Education Society of Canada
(Society founded in 1995 by the British Columbia Branch of The Nautical Institute)

December 2020

CROSSED THE BAR

Captain Brian Silvester MM FNI. February 27 1936 – November 6 2020.

Early in the morning of November 6 eight bells quietly rang out announcing the end of the watch. It was time for this mariner to leave his cancer behind and finally rest. Brian Silvester was born into a sea-faring family. As a youth he fished the North Sea with his father in a Grimsby trawler. At the age of 16 he left home and apprenticed as a ship's officer in the Merchant Navy receiving his Master Foreign-Going (Master Mariner) Certificate of Competency in 1963. The following year he took the examination of competency for Extra Master. Brian spent 20 years at sea, and then stepped ashore and took a job as coordinator and instructor of Nautical Training at Camosun College, a position he held for 28 years, retiring in 1999. After retirement, he continued to work part-time as an educator and mentor, continuing as an advocate for seafarer training and support. Brian's hobby was sailing and he spent years cruising the pacific coast of Canada and the Americas. He was a graduate of the School of Public Sector Management at the University of Victoria, a Founding Member and Past Chairperson of the British Columbia Branch of The* Nautical Institute, and a Founding Member, Director, and Past Secretary/Treasurer of the Nautical Professional Education Society of Canada. In recognition for his service to the marine industry Brian was honoured with a Fellowship in The* Nautical Institute. He was instrumental in seeking and administering funds from the British Columbia Government. Those funds helped support Canadians in their quest for 'seatime' and which then continued to establish the Bursaries that the Society now provides. He was passionate about marine education and training and was often referred to by his students and colleagues as "the living legend." A bursary has been set up in Brian's name to be awarded to exemplary students studying nautical training in British Columbia.

(*Please note 'The' and not 'the' – I am very conscious of that after Brian twice corrected me. Editor).

"The Captain Brian Silvester Maritime Education Bursary". If you wish to make a donation towards the Bursary please send it to NPESC c/o Captain J. Ruether, 3648 Glenview Crescent, North Vancouver, BC V7R3E8. Or, you can direct it to the on-line account with "Square" (www.squareup.com). That system processes the donation, issues a receipt to the donor and then transfers the funds to the Society's account at HSBC. The direct link to the donation page is: -

https://checkout.square.site/merchant/QHGAHRBAKGB0X/checkout/UHFU5OUSFEKB7BZ3TI5GIHXY

Found on the BC Coast Pilots Twitter Page:

https://twitter.com/BCCoastPilots/status/1328065844702744585

Captain Silvester was a teacher, role model and mentor to countless mariners on the BC Coast, and many of our own BC Coast Pilots. He will be greatly missed.

Brian Silvester Obituary (2020) - The Times Colonist

View Brian Silvester's obituary, send flowers and sign the guestbook.

legacy.com

Two years ago Brian submitted the story of his first trip to sea. It appeared in the April 2018 edition of Seatimes. I think it is appropriate to reprint it here. Many of you will have read this before but I'm sure you will all agree that it is worth reading again. The numerous incidents involving his ship on that voyage made him wonder if he was indeed "a Jonah".

The First Trip Apprentice – A Jonah?

I joined the *SS Saint Edmund* in Greenock on 13 November 1952 as a 16-year-old indentured apprentice, the junior of four apprentices.

The *Saint Edmund* was built as an Ocean class vessel during the 1939 – 1945 war. She was owned and operated by an old established shipping company, Rankin and Gilmour Ltd.* I was now indentured to Rankin and Gilmour and over the next four years the Company would teach me to perform the duties of a deck officer, provide me with sufficient meat, drink and lodging and pay me the sum of £480. (The exchange rate was £1 = US$2.80). I, in return, would faithfully serve the Company, obey all lawful commands and not absent myself from their service without leave.

(**Rankin and Gilmour formed a partnership in Liverpool in 1876 and traded with sailing ships to North America. In 1880 the company took delivery of their first steam tramp and in 1890 formed the British & Foreign Steamship Co, later renamed the Saint Line. By 1914 the company owned twenty ships and lost only three to enemy action, but a large proportion of the fleet was sold during the war years. In 1937 the company was sold to Mitchell Cotts & Co and was transferred to London. In WW2 the fleet was almost completely wiped out and only one ship survived the war. Several wartime standard ships were purchased after the war but these were sold off, the last in 1962 when the company withdrew from shipowning. Editor*)

We sailed for Fowey, in Cornwall, after completion of discharge of a cargo of bulk sugar. The next cargo was china clay for Portland, Maine. The china clay was dusty and turned to slippery substance if it was wetted, which I found to my dismay as I ended up on my backside on the deck. Not the impression you want to make as an apprentice

With so many new experiences my first couple of weeks on board passed in a haze. It was some time before I realized that my companions for the upcoming voyage would be 11 European officers and 44 Chinese sailors, firemen, cooks and stewards. For arrival and departure the apprentices were assigned specific positions, dependent on their seniority. As the junior apprentice my position for arrival and departure was on the bridge, where I was responsible for maintaining the Movement Book. The entries in the Movement Book included the name of the Pilot and the time that he boarded and disembarked, the number, names and disposition of the tugs, if any, and the times of all engine movements.

While proceeding down the main channel of the River Fowey the Pilot ordered a number of helm and engine movements in quick succession. The way came off and it was evident that the vessel was aground. The ship had grounded in soft mud in the main channel of the River Fowey but, as it was not yet high water, the rising tide soon floated us off. Sounding all round failed to detect any flooding into bilges, double bottoms or void spaces and the decision was made to carry on with the voyage. Was this the harbinger of the rest of the trip, I wondered?

Full Away for Portland, Maine.

Portland, Maine: Discharge was completed on 24 December 1952 and sailing orders were posted for 1000 on Christmas Day. The Pilot attended at 1000 and decided that, for a ship in ballast, the wind was too strong to leave the berth. I remember him saying, "Have your Christmas dinner and I will take another look this afternoon".

Later that afternoon the Pilot boarded and said that we could leave as the wind had dropped slightly. The order to "single up" was given, followed by "let go fore and aft". We were bound for Newport News to load a

full cargo of powdered coal for Rotterdam. Before reaching open water it was necessary to transit through a narrow channel between Portland and South Portland. The channel was spanned by a bascule bridge built 36years previously, in 1916, and was known as the Million Dollar Bridge.

In this class of ship the ballast condition was very light, with the bow well out of the water, the propeller only half submerged. There was a strong following wind. The quartermaster was having difficulty maintaining the course ordered by the Pilot. The Pilot had called for a lift on the bridge and was lining up for passage through the main channel. We were committed to making the transit when the vessel took a sheer to port and the quartermaster was unable to bring the vessel back to starboard. The port bow landed heavily on the fendering at the base of the bridge, below the lifting bascule. The sailors on the fo'c'sle started to run aft, fearing that the bascule might drop on them. With the headway we still had on, running aft meant that they, in fact, remained immediately below the bascule.

After clearing the bridge and being safely back in the main channel the Master ordered the Senior Apprentice to inspect the #1 upper 'tween deck for damage. The Senior Apprentice appeared in the mast house door in a very agitated state and shouted up to the bridge "there is a hole in the bow you can drive a car through".

The Master insisted that the Pilot take the ship to a safe anchorage until a decision could be made with respect to continuing the voyage. While at anchor a Sheriff boarded and attached a writ to the mast prohibiting the ship from sailing until a bond for $50,000 was posted to cover potential damage to the bridge. I overheard a conversation between the Master and the ship's Agent, in which the Agent advised the Master that we had severed the main gas line between Portland and South Portland, and there was a possibility that the lifting mechanism for the bridge was damaged. The next day the bond was posted and the ship was ordered to proceed to Boston for repairs to the bow.

Arrival Boston: It was after dark when the ship approached the Pilot Station, with a strong breeze and blowing snow. The pilot ladder was rigged on the port side and I stood-by to meet the Pilot. Little did I know that I was about to observe a remarkable display of seamanship.

In 1952 the Pilot Cutter was a sailing vessel and the pilot transfer was usually made by the cutter standing off and the Pilot being transferred in a pulling boat, known as a "canoe" or "yawl". The cutter appeared out of the darkness and, to my amazement, held its course to lay alongside. The Pilot leaped for the pilot ladder and the cutter sheered off, having barely touched our topsides. (It was not until 1958 that the yawls were replaced by boats with internal combustion engines and the last sailing schooner was paid off in 1971/72).

The New Year saw us in the shipyard at Boston. As apprentices we had very little money to go ashore but we were told that if we did go ashore, to keep clear of downtown Boston. We heeded this advice and learned later that there had been seven murders in Boston that New Years Eve, including a Catholic priest in Scollay Square.

With the repairs to the port bow completed we sailed for Newport News to load a full and complete cargo of coal for Rotterdam.

Newport News: The coal cargo was loaded faster than the ship could be de-ballasted. We were ordered off the loading berth to anchorage in the James River to complete de-ballasting and be on the legal load line for departure. It was a grey winter day with a fresh breeze and the ship was lying head to tide and wind.

A small tug towing three gravel barges was coming downriver towards us. The tug was clearly heading to come down the starboard side, but his barges trended across our bow from starboard to port. The question uppermost in our minds was, "Is he going to make it?"

The tug cleared the bow, the first and second barges narrowly cleared the bow and came down the starboard side. The third barge was not so lucky – it collided full on with our stem. The towline parted and the barge swung across the bow to the port side and set down with the current. It was apparent that it had been holed and was settling by the head. The forward part of the barge went under water and its load of gravel suddenly self-discharged over the side. The loss of weight resulted in an immediate decrease in draft, temporarily reducing the possibility of the barge sinking.

An inspection of our bow showed a plate in the soft nosed stem to be set-in but there was no evidence of water ingress. With de-ballasting completed the ship departed on passage for Rotterdam.

North Atlantic. Late January 1953: It was 6 bells in the First Watch when there was a loud "boom" and a vibration ran through the ship. No attempt could be made to identify the source of the noise and vibration, as the weather conditions were extreme. The wind speed was 80 knots and the swells were enormous. The main deck was continuously under green water and the watch was confined to the bridge.

At about 7 bells in the Morning Watch the Senior Apprentice, who had been on the bridge since the previous evening, rousted out the three apprentices from their bunks. "Get up, we are splitting in two", was his morning wake-up call. When it was sufficiently light, he and the Mate had been doing rounds on deck. On the port side, at the after end of the Engineers accommodation, the Mate noticed a loose line lying across the deck and over the side. "Pick up that line" he ordered the Senior Apprentice. Only it wasn't a loose line. In the half-light of morning twilight and the overcast skies what was assumed to be a loose line was, in fact, a crack in the deck plating. On further inspection, the crack extended down the port forward corner of #4 hatch coaming, across the deck to the sheer strake, from a scallop in the sheer strake down over the side to below the water. The vessel was rolling heavily and a rumbling sound could be heard coming from the #4 'tween deck. When the vessel rolled to port a mixture of water and powdered coal spurted from the crack in the deck. Clearly the #4 'tween deck was flooded but it was not known at this time if the #4 lower hold was involved.

Apprentices are not privy to the discussions among senior officers but we did learn that a MAYDAY had been transmitted and a United States Coast Guard Ocean Station Vessel was proceeding to our assistance.

Recognizing that the vessel might separate into two pieces, as had happened with a number of Liberty class ships, the crew were moved from their accommodation aft to amidships. The crew were terrified and refused to follow orders. They were convinced that the ship was about to sink and they would all die. They were right to be concerned. The weather conditions were worse than anything the senior officers had ever experienced and there was a significant crack in the deck and shell plating. The wind speed was still 80 knots with an enormous swell.

We set to doing everything we could think of to save the ship. The apprentices were ordered to hammer blankets into the crack across the deck. As the vessel successively hogged and sagged in passing over the swells, the crack opened and closed from about two inches to almost zero. We had some success in caulking the crack, until a particularly violent roll to port caused the water/coal mixture to surge against the deckhead and drive the caulking out.

The engineers drilled and tapped holes in the deck plating on either side of the crack. They drilled holes in pieces of angle iron and attempted to bolt the angle iron to the prepared holes. At times they managed to connect a piece of angle iron to both sides of the crack, only to see the bolts shear off as the crack widened as we hogged on the top of a swell. This enterprise came to an end when the 2nd Engineer broke his arm when the handle of the drill was caught in the sleeve of his boiler suit due to the ½ inch drill becoming jammed in the hole.

Seamanship books talk of collision mats and tarpaulins dragged under the hull to cover the damage and stop the ingress of water. The Bosun, Carpenter and Storekeeper fitted grommets and lanyards to a hatch tarpaulin and for a couple of hours the crew struggled to work the tarpaulin from over the bow, aft to the #4 hatch. It proved to be ineffective as the volume of water entering the crack in the sheer strake was insufficient to hold the tarpaulin against the ship's side.

Through all of this the weather conditions remained unchanged.

The Ocean class of vessel was flush decked, that is, no raised fo'c'sle or poop. There were two "insurance" wires on reels in the after end of #5 'tween deck. With difficulty these were brought on deck and flaked out from forward to aft. The ends were turned up on the bitts forward and aft, after heaving the wires as tight as possible without steam on deck. Every available chain block was then attached to the wire at intervals along the deck, each one being hove tight alternately to port and starboard.

A graphic demonstration of hogging and sagging followed. As the vessel rode over a swell and hogged, the wires became bar tight and lay along the deck. As the vessel lay in the trough and sagged, the wires rose to about two feet off the deck. Did this help to prevent the vessel going into two pieces? Who knows?

The weather was moderating slowly and the Master was able to bring the ship around and steam slowly for St. John's, Newfoundland. Even at slow speed freezing spray was coming aboard and the vessel was icing

overall. The Ocean Station Vessel was relieved by the USCG cutter "Duane", which escorted us to safe harbour in St. John's.

St. John's, Newfoundland: After berthing on the south side of the harbour, an army of officials came aboard to discuss the damage and the repairs that we needed before we could continue our voyage. To determine the extent of the crack it was necessary to discharge the cargo from #4 'tween deck. Selected tanks were then ballasted in an attempt to reduce the width of the crack. When the magnitude of the damage was established, the necessary repairs were made.

The overnight temperature fell below 0°C and light ice formed in the harbour. Ship's gear was being used to discharge the coal cargo from #4 'tween deck, which required the use of the ship's steam winches. The Mate was concerned that the steam winches would freeze up overnight, but he found the perfect solution. As the junior apprentice, I was given the task of staying up all night to ensure that all of the steam winches were kept turning over slowly to avoid freezing. The Mate told me that it was an opportunity to learn about steam winches. I was not impressed but one of the lessons that I learned from my peers was how to avoid unpleasant tasks. I was aware there was an empty cabin in the engineer's accommodation that had a port at the foot of the bunk, which looked out onto the #4 hatch. The Quartermasters kept a 24-hour gangway watch, so I arranged with them to call me each hour during the night. I would do a round of the deck to ensure that all 10 winches, the windlass and the docking winch were ticking over, and then head back to the bunk. The Mate could not understand why I was so active during the day.

Six weeks later we had discharged, repaired the damage, reloaded the cargo and were ready to sail for Rotterdam.

Rotterdam: The voyage across from St. John's was unremarkable. The ship was ordered to a discharging berth where discharge would be by floating grabs into barges.

I was on the bridge recording engine and helm orders in the Movement Book and operating the Engine Room telegraph.

Pilot Slow astern.
Apprentice Slow astern, Sir.

Pilot Half astern.
Apprentice Half astern, Sir.

Pilot Stop.
Apprentice Stop, Sir

Apprentice Sir, the engine room is not responding.

Pilot Half ahead.
Apprentice Half ahead, Sir.

Pilot Full ahead.
Apprentice Full ahead, Sir.

Apprentice Sir, the engine room is not responding.

Pilot Double ring ahead.
Apprentice Double ring ahead, Sir.

Apprentice Sir, we have just passed stern first through a skeleton jetty carrying an oil pipeline.

On leave: Four days leave after a four-month voyage.

Hi Mom.

Oh, it's you. When do you go back?

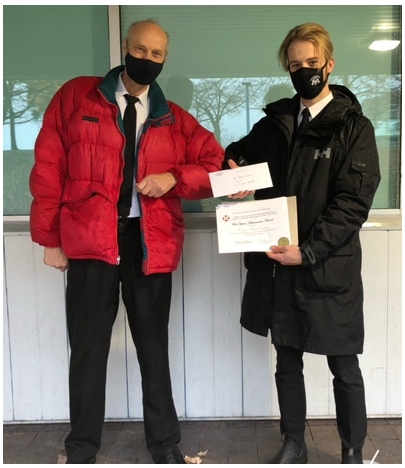
Four days. Where's Dad?

At sea. He will be back in two weeks.

Thanks Mom.

There were many exciting voyages afterwards, but none quite like that first voyage. In four years and four months that I served in the *SS Saint Edmund* I had only 31 days leave. **Captain Brian Silvester FNI**

BCIT Foundation First Year Achievement Award: Funds endowed with the BCIT Foundation generate annual awards for both a Nautical Science Cadet and a Marine Engineering Cadet. This year Cadet Mark Orehov was nominated for the Nautical Science award.



Normally these awards are made in November at a large function hosted by the BCIT Foundation but that was not possible this year. So, Captain Joachim Ruether presented Mark with the cheque and certificate at the BCIT Marine Campus but outside under current COVID restrictions – with elbow bumps and wearing facemasks.

At this time of year the Marine Engineer recipient is unavailable and that presentation has to wait until next March or April.

Congratulations Mark. Keep up the good work.

From the Port Angeles Newspaper, December 2019

Coho ferry: Today, December 29th 2019, marks the 60th anniversary of the *Coho's* first sailing on the Strait of Juan de Fuca between downtown Port Angeles and Victoria. "There will be a couple longer blasts on the horn, but it will be a regular sailing day," said Ryan Malane, Black Ball Ferry Line vice president of marketing. "No cake. No big party."
To celebrate the diamond anniversary of the iconic vessel, Captain John "Jack" Cox, chairman of Black Ball Ferry Line, will ride the ferry round trip, Malane said.
Cox worked as a First Officer on the *Coho* soon after it went into service amid fanfare on Dec. 29, 1959.

"That summer naval architects were coming from all over the world to see the *Coho* for themselves," Cox said in a company press release. "She really was a phenomenon — unlike anything that was in Europe at the time. *Coho* really influenced many of the ships that came after it."
Over the years, the well-maintained ferry has served the Olympic Peninsula and Vancouver Island with a 99.99 percent reliability rate, Black Ball officials said.
About 470,000 passengers and 125,000 vehicles make the 90-minute crossing every year. This year, the *Coho* carried its 26 millionth passenger and 7 millionth vehicle across the Strait.

"From all of us at Black Ball Ferry Line, we extend our sincerest gratitude to the communities of the Olympic Peninsula and Vancouver Island for your continued support over the past 60 years," said Ryan Burles, president of Black Ball Ferry Line. "Our invaluable partners in the tourism and maritime industries have also been pivotal to our success. We are very grateful for your business, and we look forward to serving these communities for many years to come."
The *Coho*, which is known for an aggressive maintenance regimen, will be out of service for its annual dry dock from Jan. 6 to Feb. 6. The ship has been thoroughly inspected by naval architects, Malane said. It will have a new electrical system installed and other "life

extension" work completed in the next two years, he added.
"It has easily another 25 years of life left," Malane said in a telephone interview. "It's pristine. The ship is in extraordinary condition." The *Coho's* original engines were replaced in 2004 with two General Motors' main propulsion engines each rated at 2,550 horsepower.
Black Ball Ferry Line, which owns and operates the *Coho*, celebrated its 200th anniversary in 2018. It is the last privately owned company offering international service carrying passengers and cargo under the American flag.
"Our traffic volume is growing and we know we'll have to replace her eventually, but, right now, our focus is on Black Ball's future with the *Coho* in it," Cox said. "The *Coho* has a great charm to it. I often refer to it like a 1958 Chevrolet convertible that's in mint condition. It's rare and perfect."

December 29, 2019 By Rob Ollikainen For information on the *Coho* and Black Ball Ferry Line, visit www.cohoferry.com.
Also see: https://www.youtube.com/watch?v=FlHF1o7IssY
https://www.peninsuladailynews.com/news/coho-ferry-marks-60th-anniversary/

NYK's First Internally Trained Seafarer Promoted To Captain: In fiscal 2006, NYK became the first shipping company in Japan to hire graduates from ordinary four-year universities to undergo extensive in-house training for positions on board vessels. Over the course of two years after joining the company, these employees receive education and onboard training that enables them to obtain seafarer's license, after which they are provided with onboard experience as Deck Officers and Engineers, eventually working toward the rank of Captain and Chief Engineer.
Japanese seafarers are conventionally sourced from a maritime university such as the University of Mercantile Marine and the National College of Maritime Technology. However, in order to secure a stable supply of human resources from a wide range of sources, NYK decided to begin its own internal training program.
Generally, 15 to 16 years is needed before attaining the position of Captain or Chief Engineer, and Captain Mori is the first to be promoted to the rank of Captain after participating in this program.
NYK Senior Managing Corporate Officer Tomoyuki Koyama, a Captain himself, commented, "With experience on board, Japanese seafarers support our ESG management by providing technical support for development of new technology, human education, and digitalization, as well as ship and cargo management onshore. Since more onboard expertise and diversity are required of seafarers at the forefront when NYK enters new businesses such as offshore businesses and offshore wind-power generation businesses, we will continue to secure and foster excellent Japanese seafarers to improve our competitiveness."

Akihiro Mori, the first internally trained Captain remarked, "Although the seafarer profession is tough and challenging, it is a worthwhile lifetime path. Opportunities are expanding both offshore and onshore, and I welcome young students who have the dream of taking this journey, working together, and overcoming hardships."
NYK currently has about 600 Japanese seafarers, of which 100 are internally trained. In fact, the number of new employees being internally trained is nearly equal to graduates sourced from maritime colleges.
The company will continue to nurture seafarers to ensure a diverse range of highly experienced human resources who can provide our customers the safest shipping services.
Captain Mori's Path: Akihiro Mori joined NYK in 2006 as a member of the inaugural class of internally trained seafarers after graduating from a general four-year university. NYK then enrolled him at the Marine Technical College, where he received basic maritime training in a newly established course. He continued his studies at the National Institute For Sea Training(currently the Japan Agency of Maritime Education and Training for Seafarers) and eventually completed onboard training on NYK-operated ships to acquire his seafarer's license.
Afterward, he served as an officer on car carriers, LNG carriers, and dry bulk carriers, among others, and was active in a number of fields. He was also able to use his onboard experience in work at the NYK head office. Last year, he obtained the seafarer's license of 1st Grade Maritime Officer, and he was then appointed Captain on April 1. After several years of office work, he will begin his voyages at the helm as a Captain.
History of Japanese Seafarers at NYK

- 1885 NYK Line founded
- 1896 First Japanese Captain, Gosaburo Shimazu. Captained *Hiroshima Maru* on NYK's Bombay route.
- 1920 Japanese seafarers total about 1,400 in all positions, i.e., Captains, Chief Engineers, Telecommunications Chiefs, Pursers, etc.
- 2004 NYK becomes first major Japanese oceangoing company to accept female seafarers
- 2006 NYK begins program to allow graduates from non-maritime colleges/universities to begin seafarer training after joining the company
- 2017 Woman promoted to rank of Captain for the first time in NYK's 132-year history

- 2020 First internally trained seafarer promoted to Captain

By MI News Network | In: Shipping News | April 10, 2020
https://www.marineinsight.com/shipping-news/nyks-first-internally-trained-seafarer-promoted-to-captain

---

COLREGS: Still Fit for Purpose? **There has been much debate about the COLREGS over the last 12 months or so, with many suggesting that it is now time for not just some amendments but a total revision of the Rules. So are the COLREGS still fit for purpose?**

The future - autonomous ships: Many believe that in the not so distant future, the fundamental changes in the way in which ships will be operated will render the current COLREGS unworkable. This is primarily a reference to autonomous ships, but it is also the case that the increasing use of automation and reducing numbers of crew are likely to result in the bridges of crewed ships in the future being unmanned for some if not all of the time.

It is generally understood that a fully autonomous ship (one with no crew) or any vessel with an unmanned bridge or cockpit (one with no watch-keeper) cannot comply with the COLREGS. That understanding comes from Rule 5 which requires every vessel to "at all times maintain a proper lookout by sight as well as by hearing…" and seeing and hearing in this context have always been understood and interpreted as references to the human senses.

It is worth noting however, that this and the other Rules are not directed at humans but at vessels. So for example, the requirement is for every vessel to maintain a proper lookout, to proceed at a safe speed, and to determine if there is risk of collision; and for the action taken to avoid collision to be large enough to be readily apparent to another vessel observing visually or by radar. Similarly, in restricted visibility the requirement is for every vessel that hears "apparently forward of her beam the fog signal of another vessel...." to reduce her speed.

The actions of "seeing" and "hearing" do not have to be limited to their human functions; they could be interpreted more widely so as to include the electronic "eye" (camera) and "ear" (microphone) as well as the human eye and ear. If this wider interpretation were to be adopted then a fully autonomous ship, or a vessel with an unmanned bridge, which is properly equipped with cameras and microphones, should be capable of complying with Rule 5. Indeed, such a vessel may in fact be better equipped for doing so, when one considers, for example, the ability of infra-red and thermal imaging cameras to "see" in the dark and microphones to determine the direction from which a sound is emanating.

Care would be needed to limit the scope of the equipment that can qualify as an electronic "eye." It could not include radar for example, as the Rule for vessels navigating in or near an area of restricted visibility recognizes that a vessel that is not in sight of another vessel may nevertheless detect the presence of that other vessel by radar. A vessel fitted with a thermal imaging camera might similarly be able to detect the presence of another vessel in restricted visibility in circumstances where the human eye could not. The powers of the human eye, however, are well documented, and I believe it should be possible to program the electronic eyes and master computer on an autonomous ship to know when the prevailing visibility calls for the application of Rule 19.

There still remains the issue of seamanship however: how does an autonomous ship, or a vessel with an unmanned bridge, know what "precaution...may be required by the ordinary practice of seamen?" The answer, I believe, will be provided by artificial intelligence (AI). Computers can be programmed to learn (think: Chess; Go), and it would appear therefore, that the technology might already exist to program a vessel computer to know what the practice of good seamanship requires.

I am not convinced therefore, that the COLREGS necessarily require any amendments to accommodate the fundamental changes in the way that ships will be operated in the future, save perhaps, to include a definition in Rule 3 extending the meaning of the words "by sight," "visually," "by hearing," and "hears."

The suggestion that new rules must be written now to take into account both manned and unmanned ships, does of course, beg the question: why? The owners of manned ships have to ensure their vessels comply with the COLREGS whatever they might think about these Rules, which have been in operation now for over 40 years. Why should it be any different for the owner of an unmanned ship?

It is also worth remembering that these Rules, whilst worded differently from their predecessors, prescribe the same basic collision avoidance manoeuvres; for example, when two power-driven vessels are meeting head-on, for both to alter their courses to starboard.

The current Rules have evolved into their present arrangement and wordings through a series of incremental changes and amendments over the years, and as result their entry into force during the 1970's was seamless and largely without incident. Implementing a complete set of new rules especially new manoeuvring rules, or introducing wide ranging amendments to the current Rules, is a potential recipe for disaster. It would also be a time consuming and costly endeavour, being one that will require international agreement and re-training on a global basis. I believe we should proceed cautiously therefore before we seek to totally revise the "rules of the road" for the sea.

The present: collisions are still happening. Collisions at sea are still happening, but whilst the number of collisions each year is not noticeably decreasing the world fleet capacity has increased significantly since the COLREGS came into force.

When expressed as a percentage of the world fleet therefore, the number of collisions is actually decreasing over time and therefore showing some improvement. This said, the number of collisions is still unacceptably high, and it is still very much the case that most all collisions are the result of human error and in particular, a failure to properly implement – or comply with – the Rules.

This however, is not reason to change the Rules. The Rules are not the cause of collisions; the cause of collisions is the failure by mariners to properly comply with the Rules. If, as some suggest, the many technologies designed to improve the avoidance of collisions since the rules came into force are being ignored, then the problem is with the mariners and not with the regulators ashore, or with any disconnect between the two.

No amount of regulation will force a mariner to use a particular piece of equipment or technology, just as no amount of regulation will force a mariner to properly comply with the Rules. Proper compliance with the Rules is a seamanship issue, and seamanship is taught in the classroom and acquired from experience at sea.

The Rules: lack of proper understanding

The cause of collisions is not the COLREGS but how mariners interpret and (mis-) apply the Rules. Too many mariners today, I feel, lack a proper understanding of the Rules and how they are to be applied.

The causes of most all collisions can be broken down into two broad categories: –

1. Failure to maintain a proper lookout, and
2. Failure to take appropriate avoiding action

Proper lookout: With a proper lookout the mariner will make "a full appraisal of the situation and of the risk of collision. "Many collisions occur because the mariner fails to do so, and in particular, to properly appraise the risk of collision. This is so notwithstanding the technological advances that have occurred during the last 40 years and notably the development of AIS and ARPA which make the job of detecting other vessels and determining their movements much easier today than it was when the COLREGS first came into force.

I question therefore whether mariners are being properly trained in the use and limitations of these "new" navigational aids, and what is meant by "a full appraisal of the situation and of the risk of collision." An all too frequent criticism of the mariner today is that he or she spends too much time looking at the ARPA and ECDIS and not enough time looking out of the bridge windows. Certainly, very few mariners today it seems ever slow down to allow themselves more time to make a full appraisal.

A full appraisal requires a proper understanding of the three most important phrases in the Rules: "risk of collision," "close quarters situation," and "passing at a safe distance." These phrases are not defined in the COLREGS, and this is not surprising as their meanings will clearly vary with the prevailing circumstances and conditions of every case.

Too many mariners do not appear to have a proper understanding of the meaning of these phrases and, I believe, are interpreting them too narrowly. Many mariners, for example, are interpreting "risk of collision" to mean the two vessels will definitely collide if no avoiding action is taken; and believe a few cables is a safe passing distance at sea in open waters in all conditions.

Inappropriate action: Even when a proper lookout is being maintained, collisions are still occurring because mariners are failing to take the appropriate avoiding action. Action taken to avoid collision should be "positive, made in ample time and with due regard to the observance of good seamanship." All too often the action taken is too little and too late. I question therefore, whether mariners are being properly taught the meaning of "positive" and "in ample time."

Indeed, I have heard of some mariners using the trial manoeuvre facility on the ARPA to determine what is the minimum alteration of course they have to make to avoid actual collision and ensure the other vessel passes a few cables clear.

Many mariners also do not understand that the overtaking, head-on, and crossing Rules do not apply in restricted visibility when the vessels are not in sight of one another.

No reason to change: That many mariners today appear to lack a proper understanding of the Rules and how they are to be applied is not, in my opinion, reason to change the COLREGS. It might be reason to do so if this lack of understanding arose from the way in which the Rules have been drafted. The COLREGS, however, are simply and concisely worded, and the Rules have been logically arranged; and as noted above, the problem is not with the words used in the Rules but with the meanings of those words.

Summary: For all these reasons I believe the COLREGS are still fit for purpose and there is no need for the Rules to be totally revised, whether to accommodate autonomous ships or to reduce the number of collisions.

There are going to be some fundamental changes to the ways in which ships will be operated in the future but these changes will only require a few minor amendments to the COLREGS to ensure the Rules continue to be workable.

If the shipping industry is serious about reducing the number of collisions it would do better to focus its attention on the way in which mariners are taught the Rules and how to apply them, and not upon the Rules and how they might be changed. BY HARRY HIRST 07-03-2020

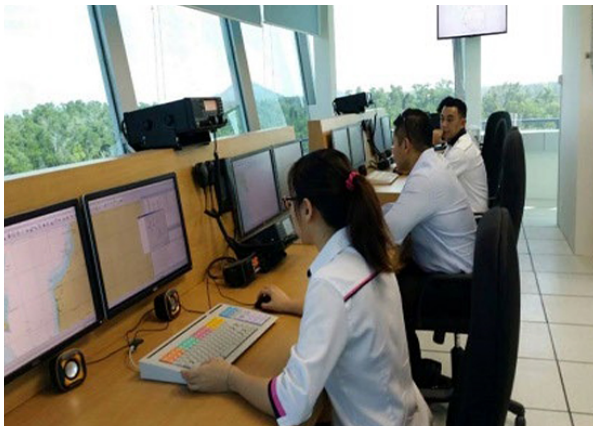
Harry Hirst is Managing Partner and Master Mariner, Singapore for Ince & Incisive Law LLC.

The opinions expressed herein are the author's and not necessarily those of The Maritime Executive.

https://www.maritime-executive.com/editorials/colregs-still-fit-for-purpose

Outbound Port Everglades today on a large containership when a sailboat cut right in front of the ship preparing to bypass the cruise ships. This is just another example of the obstacles harbor pilots encounter on a daily basis caused by the uneducated boaters. Sam Stephenson @pilotsam4 2020 March 14

VESSEL TRAFFIC SERVICE 101 FOR PORTS: In ports, effective management of the flow of marine traffic is a key to maximizing efficiency. Any number of complications, caused by human activities such as departure delays, or confusion from nature, tides, weather or such, can skew this traffic movement. Most ports now try to better manage the movement of vessels in and out of port as well as within the port using some form of vessel traffic service/management.
VTS as it is commonly called can vary from simple radio contacts to sophisticated systems with multiple stations and the most advanced radar and electronic sensors used by highly trained operators. Efficient movement of vessels is a prime concern but so is marine safety and security, which are also attributes of an approved VTS system.
The authority for VTS systems, port, coastal, riverine or other is generally held by the administration of a maritime nation which will then operate the system themselves as in Canada and most of the United States. Most often however, the administration will, under a set of guidelines from IALA (International Association of Lighthouse Authorities), pass the establishment and operation of VTS systems to other bodies, mostly ports. The majority of VTS systems in the world are operated by Port Authorities while some are operated by Coast Guards, Hydrographic services, Pilotage Authorities and a few by private organizations such as the one in Tokyo Bay. To obtain authority from the country's Maritime Administration, the majority will follow the IALA guidelines for establishment and operation of the VTS system. IALA is on the cusp of becoming an IGO (Inter Governmental Organization) which means that many of their guidelines for the marine industry (VTS), like those of the International Civil Aviation Organization, could in the near future become mandatory under IMO convention.



Ports may have implemented vessel monitoring systems as simple as a few in-transit radio calls or as sophisticated as those with advanced radar, electronic monitoring and major control centers yet always keeping in mind legal protocols that discourage anyone but the vessel master from actually directing the vessel. In other words, most VTS systems

simply ask for and provide information regarding vessel transits. This is usually under rules of a VTS Authority designated by the maritime nation's Competent Authority. In Canada, the Coast Guard is the Competent Authority *and* the VTS Authority, and additionally, under their operating agency, Marine Communications and Traffic Service (MCTS), provide marine safety broadcasts, weather information, continuous marine broadcasts and other marine safety services.

Up to standard?

Given that your country's "Competent Authority," usually the Maritime Administration or its equivalent, has decided to use the international standards of IALA or some version of this, VTS authorities (usually ports) may want to consider the following guidelines in establishing or upgrading a VTS system. Final approval is usually required by the Competent Authority.

It is occasionally appropriate to review the capabilities of an existing VTS system as shipping volumes and types of traffic are continually changing and expanding. A port's traffic management capability often requires upgrading. IALA recommends that the following should be considered for VTS upgrading and for new VTS installations.

- Consider functional requirements. Who are the stakeholders in the port operation? What are the links with port management? Include government agencies.
- Define new or expanded VTS areas, system users and their requirements.
- What is the type and level of service to be provided?
- What categories of vessels will be participating in VTS reporting?
- What tasks will be performed by VTS staff, and what is the regulatory framework?
- Determine reliability and availability along with organization of information flow.
- Define traffic management technology and equipment requirements.
- Determine operational procedures and equipment requirements.
- Prepare staff requirements and mandated training.
- Determine costs and implementation schedules.

During the above review, a risk assessment can be carried out as dangers within ports and their approaches can often change or may not have been previously addressed. The cost and implications of possible marine casualties within the port should be considered in the final evaluation of any proposal for VTS implementation or upgrade.

The above details are a very simplified version of the IALA recommended procedures for VTS implementation and all subjects would require expansive evaluation. For example, the IALA simple risk assessment process, when carried out by an IALA certified assessor, would provide an accurate view of risks within the port, suggestions to address them and what the scale and cost of casualties might be.

Summary

In today's modern shipping world, the connection of shore-side management of a port's activities is becoming more and more integrated with the vessel traffic movement component. Many options are offered for port management programs, as are those for different types of VTS systems, but full integration of both components, port operations and ship movements is not yet widespread. Such total cargo and ship movement management integration must surely be the way of the future in the world of e-navigation and ever increasing efficiency.

Captain Tuomi is a graduate of the Canadian Coast Guard College and following a career there including 12 years as a ship's captain, has been a consultant for Nautical Consulting International*. He has worked in 18 countries on marine infrastructure and safety projects for agencies such as the World Bank and the Asian Development Bank. Recent projects include Port Vessel Traffic Management development and implementation in South East Asia and in North America. More detail on VTS systems and standards can be obtained at info@nauticalconsulting.com*

**photo courtesy KASI Malaysia.* https://www.pacificports.org/vessel-traffic-service-101-for-ports/

Association of Pacific Ports News. September 18, 2020

Climate Change: Take a look at https://chinadialogueocean.net/15101-how-does-climate-change-affect-the-ocean/
It is quite long but worth reading.

The Enkhuizen Nautical College sets sail towards sustainable shipping!

The 'Enkhuizen Nautical College', founded in 1978 in the Netherlands, is the only nautical college in Europe where the focus lies on teaching students to navigate vessels under sail. Regular subjects like (astronomical) navigation, collision regulations and marine engineering are supplemented with specialized subjects as square rigged sailing, sailing vessel design and sailing vessel stability. Starting January 2021 at 'Enkhuizen Nautical College', this knowledgebase and experience with sailing ships is extended with a technical introduction to modern developments in Sailing ships: Wind assisted ship propulsion. Wind-assisted ship propulsion (WASP) is the modern version of sailing commercial freight.

This green technology may be central to the energy transition for the maritime sector. Director Cosmo Wassenaar is excited about this new addition to the school's program.
'You should realize that there is hardly any experience in the practical use of these technologies, so there are no old 'sea dogs' which can share their experience with our students. For this course we have managed to attract some highly motivated young teachers with a lot of knowledge on the theories and practice of wind-assisted shipping'. One of these new teachers is Dr. Nico van der Kolk, co-founder of an engineering consultancy specialized in wind-assisted ship propulsion: 'The course will begin with a survey of presently available wind-assist devices, including the physical mechanisms behind the new generation of high-lift sails. Practical considerations for wind assist design and operation are treated foremost. Students will be introduced to significant interaction effects between WASP systems, the main propulsion engine, course keeping and routing, and finally commercial operation. I'm very excited to explore this new topic with the students at EZS.' The course is integrated in our regular 'Grote Zeilvaart' education but is accessible for those interested in learning about these new technologies. As places in the classroom are limited (due to Corona measures), the course will also be offered online. For more information, please go to www.ezs.nl or mail cosmo@ezs.nl

DAILY COLLECTION OF MARITIME PRESS CLIPPINGS 2020 – 281 Oct 7th 2020

Oceanbird might look like a ship of the future, but it harks back to ancient maritime history -- because it's powered by the wind: The transatlantic car carrier is being designed by Wallenius Marine, a Swedish shipbuilder, with support from the Swedish government and several research institutions.
With capacity for 7,000 vehicles, the 650 foot-long vessel is a similar size to conventional car carriers, but it will look radically different. The ship's hull is topped by five telescopic "wing sails," each 260 feet tall. Capable of rotating 360 degrees without touching each other, the sails can be retracted to 195 feet in order to clear bridges or withstand rough weather. The sails, which will be made of steel and composite materials, need to be this size to generate enough propulsive power for the 35,000-ton ship.
Although "the general principles of solid wing sails is not new," designing the Oceanbird's sails has been a challenge, says Mikael Razola, a naval architect and research project manager for Oceanbird at Wallenius Marine.
That's because these are the tallest ship sails that have ever been constructed. "This ship, at the top of the mast, will be more than 100 metres (328 feet) above the water surface," says Razola. "When you move up into the sky that much, wind direction and velocity change quite a lot."
To better understand the atmospheric conditions at this height, Wallenius mounted sensors on top of its existing vessels, while they were crossing the Atlantic, and gathered data on wind velocity and veer (a clockwise change in wind direction), up to 650 feet above sea level. "All of this information has helped us design an efficient wing and hull system, that can make the most of the power available in the wind," says Razola.

Cleaning up a dirty industry: Crucial elements in the global automotive trade, oceangoing car carriers are known as Ro-ro -- the name derives from "roll on, roll off." Rather than loading vehicles with cranes, which would be slow and inefficient, vehicles are rolled along ramps built into the ship.
Large, conventional Ro-ro use an average of 40 tons of fuel per day, generating 120 tons of CO2 -- equivalent to driving a car 270,000 miles. The wind-powered *Oceanbird* reduces CO2 emissions by 90% compared to the diesel-powered HERO Class. **CNN November 13th 2020**

See much, much more at https://www.cnn.com/travel/article/oceanbird-wind-powered-car-carrier-spc-intl/index.html

---

What would the world do without GPS? Satellite navigation systems keep our world running in many ways people barely realize, but they are also increasingly vulnerable. What could we do instead?


While good old fashioned maps can help us find our way, many aspects of our modern lives would cease to function without GPS (Credit: Alamy)

When satellite navigation was **jammed at Israel's Ben Gurion** airport last year, only the skill of the air traffic controllers prevented serious accidents. The jamming was apparently accidental, originating with Russian forces fighting in Syria, but it highlighted just how dangerous interruptions to the global positioning system – better known as GPS – can be.
"There is a growing recognition of the need to protect, toughen, and augment GPS," says Todd Humphreys, a communications engineer at the University of Texas, Austin. GPS now underpins a surprising amount of our everyday lives. In its simplest form it tells us where on Earth at any time a GPS receiver is. We have them in our mobile phones and cars. They enable boats to navigate their way through difficult channels and reefs, like a modern-day lighthouse. Emergency services now rely upon GPS to locate those in distress.
Less obviously, ports would cease to operate, as their **cranes need GPS** to find the right container to move, and they play a crucial role in logistics operations, allowing car manufacturers and supermarkets to take advantage of just-in-time delivery systems. Without it, our supermarket shelves would be emptier and prices would be higher.
The construction industry uses GPS when surveying and fishermen use it to comply with strict regulations, But GPS is not only about identifying locations, it is also about time.

The constellation of **30 satellites held in orbit around the Earth** all use multiple, extremely precise atomic clocks to synchronise their signals. They allow users to determine the time to within 100 billionths of a second. Mobile phone networks all use GPS time to synchronise their base stations, while financial and banking institutions rely upon it to ensure trades and transfers occur correctly.

We really would be lost without satellite navigation. But is there anything out there that could replace it? And how might we cope without this ubiquitous system?

A loss of satellite navigation for five days would **cost the UK alone more than £5.1bn ($6.5bn)** , according to an assessment by the London School of Economics for the British Government. A failure of the GPS system would also cost the **US economy an estimated $1bn (£760m) a day**, and up to $1.5bn (£1.1bn) a day if it occurred during planting season for farmers in April and May.

But GPS outages are surprisingly common – the **military regularly jams it in certain areas** while testing equipment or during military exercises. The US Government also regularly performs tests and exercises that lead to **disruption of the satellite signal**, but also some **technical problems lead to worldwide issues**.

There are, of course, other global navigation satellite systems available – the Russian Glonass, Europe's Galileo and China's BeiDou all work on a similar basis to GPS. But increasingly, interference or deliberate jamming can also lead to interruptions in the signals from satellite positioning systems.

"The military are coming up against jamming quite frequently now," says Charley Curry, fellow of the Royal Institute of Navigation and founder of Chronos Technology, which works in this field.

The military has especially good reason to be worried. Satellite navigation was originally developed by the Pentagon, and now guides everything from strategic drones and warships down to individual smart bombs and foot soldiers. And it is under threat.

A massive solar storm, one like the Carrington event of 1859, could bring down the entire GPS network: Criminals also use GPS jammers, easily bought online, to foil the systems used to track stolen cars, not caring who else is affected in the surrounding area. And there are bigger dangers.

"There is also the remote threat that the whole GPS constellation could be rendered inoperable in the initial salvo of a war targeting the US economy by attacking critical infrastructure," says Humphreys.

Natural forces could be similarly disastrous. A massive solar storm, one like the **Carrington Event of 1859**, could bring down the entire GPS satellite network as surely as a military strike.

But if GPS and its international cousins were to suddenly disappear – what alternatives could we turn to in an attempt to keep our entire world moving?

One possible backup for GPS is a new version of Long Range Navigation (**Loran)**, which was developed during World War Two to guide allied ships while they were crossing the Atlantic. Instead of satellites, however, it consisted of ground-based transmitters with **200-metre (660-feet) tall aerial masts** broadcasting radio navigation signals.

At first Loran was only accurate to within a few miles, but by the 1970s it could give a location within a few hundred metres. The UK and other countries decommissioned their Loran transmitters in the 2000s when GPS made them redundant, but a modern, enhanced version, known as eLoran could be as accurate as GPS. It uses more advanced transmitters and receivers than the original version, along with **a technique known as differential correction** – where the signal is monitored by reference stations and corrected – to improve its accuracy.

This enhanced version is reportedly capable of pinpointing locations to an **accuracy of less than 10m (32 feet)**. Unlike GPS, it is also able to penetrate buildings and tunnels – primarily because it uses a lower frequency and higher power than satellite signals. The powerful eLoran signals are much more difficult to jam and there are no vulnerable satellites. But someone would have to fund it.

"eLoran is a great technology that could fill nationwide gaps," says Humphreys, adding, "if there were a commitment to setting it up and maintaining it".

Tracking fast moving satellites like the International Space Station has helped to improve the accuracy of celestial navigation (Credit: Alamy)

Other approaches do not require additional infrastructure. Long before radio, sailors navigated with the aid of the sun and stars, using a sextant to measure the angles between them. Celestial navigation continued into the modern age. And surprisingly enough, ballistic missiles like Trident **still use astro-navigation** during flight. By using fixes from stars it is possible to pinpoint a location on Earth to within a thousand metres or so.

Having large numbers of fast moving objects to get bearings on means that Skymark can achieve greater accuracy than was possible with slow moving stars: But US company Draper Laboratory has developed a new generation of celestial navigation known as **Skymark** which uses a small, automated telescope to track satellites, the International Space Station and other objects orbiting the Earth along with the stars.

Having large numbers of fast-moving objects to get bearings on means that Skymark can achieve greater accuracy than was possible with slow-moving stars. Skymark uses a database of visible satellites – both working satellites and space junk – and has a claimed accuracy of 15m (49ft), making it almost as good as GPS. At times it is capable of greater accuracy, but this depends on how many of these satellites can be seen at once, says Benjamin Lane, group leader of Advanced Position, Navigation and Timing Instrumentation at Draper.

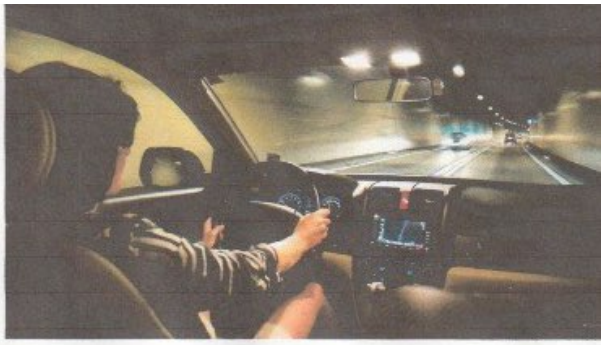
"The best accuracy for celestial navigation with certainty is within a couple of metres," he says. "One limitation is the size of the satellite references."

Another drawback is that it only works with a clear view of the sky. Using infrared light rather than visible light, which can pass more easily through haze and light cloud, helps a little, but in parts of the northern and southern hemisphere where thick cloud and grey-skies are more common, it is likely to be less useful.

Perhaps a more day-to-day option might be inertial navigation, which uses a set of accelerometers to work out the exact speed and direction that a vehicle is travelling in to calculate its position. Basic versions are already in common use.

"When your car goes into a tunnel and you lose the GPS signal, it is inertial navigation that keeps your position updated," says Curry.

The problem with inertial navigation is "drift" – the calculated position gets less accurate over time as errors build up, so the inertial navigator in your car is only useful for short GPS interruptions.



Inertial navigation is what takes over when in-car navigation devices lose the GPS signal inside tunnels (Credit: Alamy)

Drift could be overcome with quantum sensors thousands of times more sensitive than existing devices. In the quantum world, atoms and particles start to behave as both matter and waves, and acceleration alters the properties of this behaviour. French company iXBlue is using this technique to **build a device to rival GPS precision**, and a team from Imperial College London, working with laser specialists M Squared, **demonstrated a prototype portable quantum accelerometer i**n 2018.

The US Department of Transport is now holding a competition to select possible backups for GPS: Such quantum sensors are still confined to laboratories and are years away from a usable end product.

Optical navigation, in which automated systems with cameras use landmarks like buildings and road junctions, may be with us much sooner. An early version, known as **Digital Scene Matching**, was developed for cruise missiles.

ImageNav, developed by Scientific Systems for the US Air Force, is a modern optical navigation system for aircraft. It has a terrain database of the area being navigated and matches it with input from video cameras to work out its location. ImageNav **has been successfully tested** on a number of aircraft, but could also find uses in self-driving vehicles.

Swedish company **Everdrone** also recently carried out the **first drone delivery** between hospitals without using GPS. Their system uses a combination of optical flow – measuring speed by the rate of which scenery passes below – and landmark identification to find its way from point to point with GPS-like precision. Of course, this method relies on having a complete and accurate image database of the area you are navigating, which is likely to require a lot of memory and frequent updates.

The UK is developing a backup system for the timing synchronisation services that GPS provides in the form of **The National Timing Centre program**, the first such national service in the world. When it becomes operational in 2025, it will involve sets of precise atomic clocks at distributed, secure locations across the UK, providing timing signals via cable and radio services. The idea is that if satellite signals go down, there is no single vulnerable centre that could be brought down by an accident, technical glitch or cyberattack.

Ultimately no single system may be able to replace the power of satellite navigation systems such as GPS, and we may end up with a mix-and-match of different solutions for ships, planes and cars. The US Department of Transport is now holding a competition to select possible backups for GPS. There is a real question though over whether any alternative will be in place soon enough.

"There's now an awareness of the problem, but things are still moving at glacial speed," says Curry.

We are becoming ever more reliant on accurate navigation. Self-driving cars, delivery drones, and flying taxis are expected to appear on and above our roads over the next decade. All of them will be dependent on GPS.

As Curry notes, one person with a powerful jammer could knock out GPS across an area the size of London from the right place. Unless adequate backup systems are developed, in the future whole cities might grind to a halt at the flick of a switch. BBC October 4th 2020. https://www.bbc.com/future/article/20201002-would-the-world-cope-without-gps-satellite-navigation

---

Foreship employs drones to boost accuracy in draught surveys: Foreship, a naval architecture and marine engineering company, has stated that draught surveys deploying drones boost the accuracy of readings in addition to the speed and safety of the survey process.

After conducting trials successfully, Foreship has added this approach to its service offering.
Usually, a draught survey is carried out from a boat operated alongside the vessel. The boat could be a ship's workboat or even a rescue boat. It is lowered to the water so that a surveyor can take readings, using the markings painted on the ship's hull.
Foreship chief naval architect Markus Aarnio said, "The traditional way of taking draught readings is time-consuming, and there are always some risks when launching a manned boat from a vessel, such that it is best avoided when not absolutely necessary.
"Then there is the question of accuracy: it can be difficult for a surveyor to take precise measurements in waves, while the ship operator's interest is for the process to be completed in as short a time as possible, for example."
Due to disadvantages, Foreship was inspired to look for a more advanced solution.
Aarnio added: "Drones are fast and highly manoeuvrable and can be controlled from a remote location. This eliminates the need for a survey boat, saving time and improving safety. The technology also allows greater accuracy, because even in choppy waters, the video footage captured by the drone allows us to determine the draught reading correctly."
27 October 2020. https://www.ship-technology.com/news/foreship-drones-accuracy-draught-surveys/

Your Society.

Do you wish to make a financial contribution to the Society? Is it time for you to renew your membership? The Annual Membership Fee remains at $40.00 but any amount that you can donate will be greatly appreciated.

Please make your cheque payable to the NPESC and mail it to: -

Nautical Professional Education Society of Canada,
3648 Glenview Crescent, North Vancouver, B.C. V7R 3E8

Thank you.

Contributions to the NPESC are tax deductible. Charitable Registration # 1039049-20

Hot off the press! Here are the names of the 5 Winners of the NPESC Fall Bursaries.

Angela Holmes: Studying for Bridge Watch Rating at Camosun College
Ashley Obeck: Nautical Science Diploma at BCIT (The Captain Harry Allen Award)
Kam Cheema: Marine Engineering Officer Cadet Program at BCIT
Kyle Clare: Nautical Science Diploma at BCIT
Jennifer Hines: Studying for Bridge Watch Rating at Camosun College

Congratulations to everyone!

Articles or comments for inclusion in future editions of Seatimes can be sent to me at whitknit@telus.net
David Whitaker FNI