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## Editorial

The last quarter was replete with a mix of sports events, natural disasters and economic upheavals. Close on the heels of Commonwealth Games, the continental sporting extravaganza-18th Asian Games were held in Indonesia in August. 45 countries participated in 58 disciplines and India fared remarkably well with a tally of 69 medals.

The nation monitored with bated breath the rescue of injured Cdr Abhilash Tomy from stormy seas in the South Indian Ocean, about 3700 NM from Perth, Australia. He was in third position in the Golden Globe Race when his vessel the SV Thuria faced 80 knot winds in a severe storm.

There have been a series of natural disasters - an earthquake and tsunami in Indonesia, hurricane Florence pummeled the Carolina coast in US and unprecedented monsoon floods in Kerala.

The spike in world crude prices, trade wars between US and China and fall in the value of Rupee have caused spiralling of domestic fuel prices. The slight lowering of prices in early October gave some respite to the people.

IMF activities have continued 'full ahead' as usual. The Maritime Research center of IMF in collaboration with Savitribai Phule Pune University conducted a one day seminar titled 'Underwater Domain Awareness framework for SAGAR'(Security & Growth for All in the Region) on 25th Aug 18. The Chief guest for the seminar was Dr Subhash Bhamre, Honorable Minister for Defence Production and was attended by stake holders from all fields.

On 9th Sept 2018 the IMF conducted its Annual Seminar on 'Role of Disruptive Technologies in Maritime Domain', with V Adm KB Singh FOC-in-C Eastern Naval Command as the Chief Guest. The topics covered were AI, Cyber Security, UAVs and Internet of Things. On 22nd Sept 18 with active support of locals, the Chennai Branch of IMF conducted coastal clean-up on Marina beach.

The World Maritime Day (WMD) 2018 was celebrated, under the aegis of IMO, in all maritime nations of the world in September 2018. The theme for this year was "IMO 70: Our Heritage – Better Shipping for a Better Future. In Pune, the event was celebrated jointly by the Company of Master Mariners of India, The Institute of Marine Engineers (India) and the Indian Maritime Foundation at PYC Gymkhana on the 24th Sep 2018.

In this issue I am pleased to include interesting articles such as 'Challenge of the Sea', 'a Tribute to a great sailor – Adm John McCain, Submarine Communication Cables and reports on the various seminars held, besides other features.

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### NOTICE BOARD

18 Nov 18 – Remembrance Day, Wreath Laying Ceremony, Bund garden, Pune.

16 Dec 2018 - Junior SIMA on the Spot Painting Competition

14 Jan 2019 – IMF's 25th Anniversary, Lecture and Dinner.

Early Feb 2019 – ICC 2018 Valedictory Function at Boat Club.

Mid Feb 19 – SIMA Annual Exhibition of Seascapes at Bal Gandharva Kala Dalan

## Letters to Editor

Dear Sir,

I really am happy to receive the electronic copy of Seagull 94 with my article under very flattering heading of Military History. I tell everyone that in my later years in the Navy I did become little historical with that "Battle of Umbre at Shivaji" and then " 250th Anniversary of Naval Dockyard in 1985".I can now add new item Bangladesh war.

I must congratulate you for a well brought out Seagull 94 with wide range of very interesting reading material. I really am impressed with Indian Maritime Foundation for the great work it is doing and wish the Foundation happy and fruitful years ahead.

Warm Regards  
**Cmde Rabi Huja (Retd)**  
**Pune**

Dear Sir,

Many thanks for the pdf attachments. Went through the contents with much interest, especially the ones by MP Awati Esq and your take on the Battle of Iwo Jima. May I request that this method of pdf attachments be continued for future issues.

Apologies for not being able to get back in time with your earlier request for high-definition images. I do realise the enormity of your responsibility as I have a similar role, as Editor of GaugeGlass (this is an international magazine of the Marine Engineering college - DMET - alumni spread across the globe).

Wishing your IMF team the very best and assuring you of my continued, though sporadic support.

Kind regards  
**Sukerna Amirapu**  
**Auckland, New Zealand**

Dear Sir,

Warmest thanks for the latest edition of Seagull which was really special with its wide coverage of interest and events: sea battles, climbing Everest, art and literature and two epic global voyages: SV Thuria and, of course INSV Tarini with her wonderful skipper and crew of intrepid Naval Lady Officers. I so much enjoyed reading the article, by Cmde A.J.Chitnis especially his interview with the Captain Lieut Commander Vartika Joshi. I loved the photograph of SV Thuria on the journal's cover and will be interested to hear how she gets on in the Golden Globe race. I am so impressed that IMF has its own department in Savitribai Phule Pune University and that you have been responsible for its foundation. Your work and influence is quite unbounded!

I do hope that you are keeping well despite your hard work which entails quite some travelling. It was lovely to see the handsome photograph of the splendid Naval Officer Ladies with the President of IMF himself!

With my love and very best wishes to your colleagues  
**Pamela Gueritz**  
**Salisbury, England**

## Indian Navy Wins KAKADU-18 Cup In Australia

**New Delhi 03 Sept 2018 :** The Indian Navy has won the coveted KAKADU Cup 2018 in Australia as it participated in a multilateral maritime exercise involving 27 navies. On Sunday, the teams participated in sports day where the Indian team dominated all the others to clinch the KAKADU18 Cup. KAKADU exercise is a multilateral maritime engagement hosted by the Royal Australian Navy with support from the Royal Australian Air Force. This biannual joint exercise which started in 1993, took place both ashore and at sea off the coast of Darwin. The name KAKADU is derived from Kakadu National Park, a protected area in the northern territory of Australia, 171 km south-east of Darwin.

“KAKADU 2018 is a biannual joint exercise taking place both ashore and at sea off the coast of Darwin. This year's exercise involves 27 nations and more than 3000 personnel which represent

the largest military commitment to the exercise since it began in 1993,” Royal Australian Navy said in a statement.

INS *Sahyadri* which took part in the exercise had entered the Port of Darwin. The ship was earlier deployed in the South China Sea and Pacific for over four months and represented the Navy in multinational exercises MALABAR 18 at Guam and RIMPAC 18 at Hawaii, PTI reported.

After the end of the Cold War, the world's focus shifted from the Pacific Ocean to the Indian Ocean and global powers are eyeing this strategically important region now commonly referred to as the Indo-Asia-Pacific region. This exercise has been organised to strengthen bilateral relationships and build partnerships to promote "free and open international order".

*Courtesy : Timesnownews.com*



**INS *Sahyadri* at Darwin, Australia**

## Mapping The Mysteries Of The Ocean Floor

**The Nippon Foundation-GEBCO Seabed 2030 Project, which aims to map the entirety of the world's ocean floor by 2030, is to receive 120,000 square-kilometres of data from Texas, USA-based surveying company Ocean Infinity, which will be incorporated into the latest version of the global map of the ocean floor.**

So far, only a fraction of the ocean floor has been mapped with direct measurement. Ocean Infinity's data was collected by a fleet of eight AUVs, enabling the surveying company to gather data much more quickly than traditional mapping missions during its recent Indian Ocean search for the missing Malaysian airliner MH370.

**Rapid.** “Our deepwater search for MH370 demonstrated the most rapid collection of high-resolution sonar data in history, and we are thrilled to announce our donation to such a pioneering initiative,” said Oliver Plunkett, CEO of Ocean Infinity. The AUVs were transported to the search area by the research vessel Seabed Constructor, and each houses industry-leading technology including a multibeam echosounder, sub-bottom profiler, HD camera and a wide array of sensors.

Commenting on the partnership, Plunkett continued: “We are very proud to be supporting the Seabed 2030 initiative, which is leading the effort to collect previously unknown data of the ocean floor. Given how little of the seabed has been charted to date, we see this as an immensely significant project to promote a greater social understanding and sustainable use of the oceans.” “The Nippon Foundation-GEBCO Seabed 2030 project is hungry for data and this is a priceless contribution to ocean science,” said Seabed director Satinder Bindra, adding: “Their

donation will undoubtedly encourage other companies to contribute data so we can all collectively support one of the UN's Sustainable Development goals to use our ocean resources sustainably.”

**Transport.** Several research organisations, academic institutions and other regional mapping initiatives have long been contributing data for the production of a global map of the seafloor, but the Ocean Infinity initiative underscores how Seabed 2030 aims to crowdsource data by leveraging assets already at sea from sources such as surveying company ships, transport vessels and cruise liners to contribute to a global bathymetric map. Crowd-sourcing also paves the way for small organisations and individuals to get involved in the global movement to map the seafloor by 2030. Many fishing boats and pleasure-craft are equipped with basic sonar for navigation, with readings recorded by onboard computers.

Earlier this year it was announced that Fugro, the Netherlands, donated almost 100,000 sq km of transit data – acquired while travelling between client projects – bringing the total private sector data donated to the project to 220,000 sq km. Further 710000 sq km of bathymetric data released by Australia will be incorporated in the global grid.

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### Submarine Rescue Trials

JFD, UK, has successfully completed the first open sea launch, dive and recovery of the deep search and rescue vehicle (DSRV) for the first of two Third Generation Submarine Rescue Systems being delivered to the Indian Navy, the company has announced.

*Courtesy : Underwater Contractor International . July/August 2018*

## International Coastal Clean-up At Kimsha Beach, St. Martin

By Br Yezdi Batliwala

The beautiful, friendly Caribbean island of St. Martin (known as Sint Maarten in Dutch) situated about 300 Km east of Puerto Rico is probably the smallest island in the world divided between two sovereign powers – The French and Dutch. The total island area is just 87 Sq Km with the French side being 53 Sq Km and the Dutch side being 34 Sq Km. The island has a total population of a little over 125000 with an Indian population or approximately 3000 to 3500. It has 37 beaches along its 70 Km coastline which cater to tourism which is the only source of livelihood on the island. Kim Sha Beach is on the world famous Simpson Bay area on the South West of the Island.

The Coastal clean-up was done at Kimsha Beach on 30 Sept 2018 by Indian and Filipino children who are members of the Indian Kids Community Service Club. Other volunteers also came to clean the beach. A total of five bags of trash weighing over a hundred kg were collected by the enthusiastic children. They have been participating in the ICC activities for a number of

years. I have personally taken part in the clean-up on the island twice, during a visit to my family.

*Mr Yezdi Batliwala is a Council Member of IMF and has been closely associated with St Martin*



Environment conscious children of St Martin

## **Making Our Young Sea-minded**

By Cmde R Vir

When Indian Maritime Foundation (IMF) was established 25 years ago in 1993, one of the main objectives we had set for ourselves was to kindle maritime consciousness and pride among the children and the youth of India. In other words, we wanted to plant in them the seed of sea-mindedness.

Why? Because it is not commonly known that India is a major maritime sub-continental nation with a glorious ancient seafaring history and heritage, so much so that one of the five great oceans is named after India.

Investing in our young with maritime knowledge was considered by us far more important than some of our Foundation's other objectives. We have remained focused on that throughout and have been doing so by giving lectures to children, and young adults, in several schools and colleges in Pune, and the total count now over the years since we began must be in hundreds, I am happy to say. The lectures were delivered in English and Urdu, and mostly by me, and some by Capt Reggie Gulati in the earlier years, and briefly by our council member, Cdr Kishore Patankar who spoke in a few Marathi speaking schools. The lectures continue to be ongoing. The most recent lecture given by me was at the St Felix Girls High school at Pune in Sep, 18.

Most schools run a very tight schedule of their syllabi and classes and there is very little time available for extra-curricular general lectures. It is not easy to convince the schools to give a slot for a lecture about the sea. In our team however we were fortunate to have Mrs Nalini Kunte, IMF's Secretary and In-charge of PR, who had established an excellent liaison with many school / college principals and teachers to arrange the lectures and she invariably accompanied the speaker. This she did admirably for many years.

Recently another Council member, Capt Sunand Kanetkar has taken over this task.

One of our standard lectures, for example, is on saving the oceans, comprising a brief historical background on ancient seafaring by Indians, from the Mauryan period, as well as the classical golden age of the Gupta period 3rd to 5th century AD. Inexplicably, Indians became inward looking and superstitious around the 13th Century and considered it bad luck to cross the seas. Besides, Indians totally neglected the defence of their sea frontiers. Traders from four small and, distant European nations then came to India, and over time, with the help of their superior ships and naval power they colonized India. We were beaten, humiliated and subjugated for 300 years by these colonizers, despite India's long history of cultural power and influence going back to many centuries. It was of no help!

Why did it happen? We do not seem to introspect. We found that we teach in our schools, to glorify ourselves, how India won its freedom, but we do not teach how we lost that freedom in the first place. In our lectures, we now drive home to students that we lost our freedom principally because India was not a sea-power and it had not invested in a navy to defend itself from onslaughts from the sea. This must never ever happen again. We now do have a vibrant navy we can be proud of.

Our lecture continues with explaining why oceans are important and how our lives depend on the well-being of the oceans, and about the microscopic plants, the phytoplankton, and its marine photosynthesis, converting more CO<sub>2</sub> into oxygen for us than the trees do on land, about the oceans' rich biodiversity, about the serious



challenges being faced by life in the oceans in the 21st century due to human intervention, such as pollution, overfishing, etc.

We try to inculcate among the students the curiosity about life in the oceans, which leads on to their developing kinship with, and stewardship of the oceans. The children love being told that we humans are tetrapods and have evolved over millions of years from fish. That our cousins in the sea, who are mammals, are the whales who bear their babies like humans do and have many characteristics like humans, and they are endangered and need to be protected.

Finally, they learn about what they can do. That they can, and many do, take part in IMF's signal programme for the past fifteen years, the international coastal cleanup, the cleanup of beaches and river banks, which is conducted by us all over India. Their school parties are urged to visit our fine Maritime museum, located

alongside the Deccan College's museum of archaeology in Khadki. Several schools have visited our museum.

We touch upon maritime careers open to our young boys and girls, as many as twenty careers, the navy and merchant marine being just two. Girls especially are excited when told that all twenty are open to them and it evokes some questions always during the discussion time.

In closing, the students are left with a strong message that if we want to protect our freedom, India should be a strong sea-power and must never neglect its sea frontiers again. And for all of us to feel proud that India is a maritime nation, with the bounteous seas washing our shores on three sides.

*Cmde R Vir is President IMF*



**The author at St Felix Girls High School**

## IMF Seminar: The Role of Disruptive Technologies in the Maritime Domain

By Capt AC Dixit

IMF's Annual Seminar was held on 9th September 2018 at Central Park Hotel, Pune. The theme for the seminar was '**The Role of Disruptive Technologies - AI, Cyber Security, UAVs, IOT ... in the Maritime Domain**'. V Adm KB Singh, FOC-in-C, Eastern Naval Command was the Chief Guest.

The cyber attack in June 2017 on APM Moller's computer servers across Europe and in India, resulted in the total breakdown of all business units at Maersk, including container shipping, port and tug boat operations, oil and gas production, drilling services, and oil tankers. It was a rude wake-up call for the shipping world. The conveners of the seminar must be congratulated for choosing this relevant theme at an opportune time.

The seminar was attended by an august gathering of serving officers and veterans from the Army, Navy and Air Force, academicians, representatives of IT related and defence industries, and members of IMF. Cmde Rajan Vir, President IMF, welcomed the guests. VAdm Vinod Pasricha, Head of the Combined Study Group, in his inaugural address highlighted the importance of cyber security.

After an introduction by Cmde Rajan Vir, the chief guest VAdm Karambir Singh delivered the keynote address. He gave a broad outline of the most imperative need for Maritime Domain Awareness (MDA) as the cue to naval operations in which all the disruptive technologies were now incorporated including space. He also referred to the age of cyber warfare and suggested that data



**C-in-C Addressing the delegates**

security of the Navy would involve development of a mitigation plan designed to manage, eliminate or reduce risk. He left it to experts to give recommendations for the Navy to gain from this path breaking event, as Pune is home to cyber specialist companies dealing with the maritime sector.

made them vulnerable to cyber attacks. He stressed that cyber risk management must be incorporated in the shipping industry's Safety and Security Assessment.



**C-in-C accepting a Memento**

The first session began with opening remarks by the Moderator Prof Amitav Mallik. He focused on the development of Artificial Intelligence (AI) and the need for India to catch up with other nations in the field of AI and drone technology. The first speaker was RAdm G Vishwanathan, Flag Officer Doctrines and Concepts, who gave a very lucid talk on **Cyber Security in the Maritime Domain**. He explained how the widespread adoption of digital systems in shipping and off-shore industries have transformed these industries but at the same time

Cmde GS Jawanda from the Navy's acclaimed Weapons Electronics Systems Engineering Establishment (WESEE), spoke about the **Role of Big Data and AI in the Maritime Domain**. He put forward an interesting theory that identifying behavioral patterns from various information sources can help in decision making which, otherwise would not be possible due to a vast volume of data available.

Mr Arun Ramchandani and Mr Koustubh Phalnikar from L&T Defence System spoke

about **Unmanned/Autonomous Systems –Indigenous Solutions for Armed Forces**. The L&T team explained the role that unmanned / autonomous systems can play in an asymmetrical warfare. They presented the key features of some of the products being developed by L&T Defence for use on the ground, in the water and in the air. This brought the first session to an end and a break for a delicious and sumptuous lunch. The second session began with opening remarks by VAdm Pradeep Chauhan followed by a presentation by Mr Gautam Datta of Siemens. He explained the concept of Industry 4.0 and the 9 pillars associated with it. He stressed the importance of system integration at every level. The next speaker was Mr Anil Gupte, an entrepreneur, innovator and educator. His subject was **The Role of IOT in the Maritime Domain**. He began by explaining what is IOT (Internet of Things) and went on describe the three pillars of the Maritime Domain, namely Commerce, Warfare and Research. This was followed by a very interesting talk by Mr Joy Basu , Director Amplify Mindware, Pune, on **Industry 4.0 and Block Chain for Maritime Services**. He talked about application of

Industry 4.0 in businesses, particularly Shipping and Maritime Industry. His demonstration of how the Great Eastern Shipping Co tracks and manages its fleet held the audience spellbound. The last speaker was Cdr (Dr) Nitin Agarwala, Research Fellow, National Maritime Foundation. His subject was **Policy Framework on the role of Disruptive Technologies in the Maritime Domain**. He defined Disruptive Technology and named twelve areas that exhibit greatest economic impact and have a potential to cause disruption by 2025. He brought out the point that disruptive technology can be positive also and termed it disruptive innovation . He recommended that policy makers take this into account for the benefit of maritime industry. In his Concluding Remarks VAdm DSP Varma summarized the proceedings of the seminar and the various key points that emerged from it. Cmde Ajay Chitnis proposed the Vote of Thanks to all participants the speakers, delegates, audience and the sponsors ending this highly instructive and at the same time interesting seminar.

*Capt AC Dixit is Vice President of IMF*



**C-in-C with IMF Council Members**

## Challenge Of The Sea

By Capt S Chander

It was a bright sunny day. Calm, peaceful and regular as the other days with no indication whatsoever of what was to come in the next few days.

I had sailed out from Nhava in command of Samudrika 11, an Offshore Supply Vessel with a deck full of cargo all nicely lashed and secured and full load of cement, barite, diesel, drill water and fresh water. I can't recollect the correct year and month but it was monsoon time in mid nineties.....may be 1996.

After clearing the channel I was asked to proceed to rendezvous "Miss Kitty" an American jack up rig deployed south of Bombay High South for new exploration. I was pleased that there would only be one Miss to serve and standby for. No hassles and no additional jobs. A day after arrival I delivered all the liquids namely the fresh water, drill water and diesel at double full time. The first information came two days after arrival. A low pressure had developed somewhere down south moving NNW'ly and was likely to intensify further. This was one of the normal weather forecasts during monsoons. I had heard several such forecasts in the past. There was no cause for worry.

I was mistaken.

The depression developed into a deep depression and kept intensifying with every forecast. Nhava base started 4 hourly weather bulletins. This was the first sign which alerted me. Then, I had but little faith in IMD forecasts. So, I asked David Mathew, my chief officer cum navigator to plot all the positions of the low depression reports on a small scale chart and show me. About 6 -7 positions were available. The plot showed a gradually advancing low pressure system at more or less the same speed and in the direction forecast earlier. For a change IMD was proving to be right. After this I plotted all the positions as they were being intimated. David was an experienced sailor from the fishing community

of Kerala. But, he understood the importance of this apparent additional work only when I joined all the positions that he had plotted on the chart and showed him what it revealed. More importantly I also understood how much I could depend on the accuracy of the weather forecasts. Now one thing was certain. The storm was imminent. Falling barometer readings confirmed the same.

I was in her path. It would take about twenty four hours before we met. I had to make my preparations. **I listed the basic requirements as follows :**

**Water tight integrity.**

**True and actual status of machinery.**

**Present condition of hull.**

**Morale of the officers and crew.**

**Be calm, apply common sense and maintain presence of mind.**

Needless to say that all these 5 points played a crucial role in the next 24 hours.

Lower decks were cleared and I briefed all about the impending situation. I stressed upon the importance of the above points. Chief engineer and Chief Officer were called to the bridge and were briefed to go about implementing the first two points and keep me informed. The Chief Officer reported that two port holes on the starboard side and a main door on weather deck port side were not water tight. He found the sealing rubber lining but there was no rubber glue. If he could get some rubber glue he could fix these. I spoke to the tool pusher (This actually is a post in rigs and he is the equivalent of Exo) of Ms K and explained the situation to him. That kind hearted American immediately agreed to spare the item. I went under Miss K for a quick short lift to receive the glue. While the lift was being lowered SAM started to roll and pitch. Wind was picking up. Both sea and swell also started to pick up. The first signs began to appear.

At this stage I contacted Nhava base and intimated the actual developments at site. As I was the only OSV in location I asked permission to withdraw and return to the safety of harbor. Permission was neither granted nor refused. Nhava was awaiting instructions from Vasundhra, the building at Bandra where the top bosses of ONGC operated.

The weather had begun to pick up further. The ch. engineer and the ch officer went about their jobs methodically in double quick time. No one shammed. I stayed on the bridge with R O trying desperately to seek permission to return to safety while there was still time. No one in position of authority either at Nhava or at Bombay High (FPS) was giving any clear instructions. I was losing on valuable time. I decided to bypass Nhava and FPS at Bombay High and contacted Vasundhra directly requesting permission to withdraw. A very diplomatic reply was given....." Captain you are in the best position to judge and decide." This was my last effort to get clear orders to abandon mission and return to safety. But no one and no one was willing to take the responsibility knowing fully well the gravity of the situation and imminent danger to life and material.

The ball was in my court.

While still in location at anchor I saw Ms K lightening up, discharging cement and barite. A procedure I knew the rigs initiated before abandoning.

My decision was made then.

I logged the conversations with Nhava, FPS and Vasundhra and informed Miss K about my decision. Knowing well that I was the only standby boat in location I had expected some protests from them. To my utter surprise there was none. On the contrary they wished me luck and safe return to base. I was humbled.

All the slack tanks were overflowed. Around 1500 hrs I had to use engines at almost half ahead to weigh anchor. The sky was dark, It began pouring in sheets and the sea and swell added to my worries. Visibility was very poor. The storm / hurricane/ typhoon or cyclone had announced its

arrival. Once the anchor was aweigh, I set course for Bombay. The Ch engineer, the Ch officer and bosun all came on the bridge. RO along with several members of crew was sea sick. Within a matter of half an hour it was totally dark all around . SAM was being tossed up and down, port and stbd like a ping pong ball. I saw mountainous waves around me. Several times the vessel went up and came down with so much momentum that while rising with the crest our knees folded and while falling to the trough our feet came off the deck we were standing on. It was difficult to stand .Sea sprayed heavily all over from either bow. The wind was howling. The vessel was being swamped , tossed and pounded all at the same time. It was scary.

The battle royal had just begun. And to survive there was only but one condition.

**Win..... or die .**

Soon the stbd steering motor failure alarm buzzed. There were two steering motors. Both were running. I still could manage on the port steering motor. But alas! That was not to be. Within a couple of minutes the port steering motor also packed up. The rudders got stuck hard to stbd..

The deck cargo included a wellhead block on a pellet. It was a heavy piece of special solid steel tablet shaped block about ½ a meter in dia. This pellet broke its lashing and skidded under the stbd hatch cover on main deck which lead to the steering gear compartment. It got stuck there. With the heavy rolling and pitching this well head block caused a small opening in the battened down hatch cover. Water entered the steering gear compartment and short circuited both the steering motors. I kept my calm and thought of alternatives. I tried to use both engines with different set of RPMs with no success. Everyone around me had ashen faces. The extreme pounding and this new challenge set me thinking hard. I was trying to revise in my mind what were the basic principles of fighting a storm. I could recollect only two.

(a) The principles, whatever they were, were opposite in N and S hemisphere.

(b) Ride the storm either on your bows or on your quarters.

I focused on the second point. To implement this I needed to maintain my heading and that was not happening only by use of engines. And then all of a sudden the bright idea flashed in my head which probably proved to be a decisive factor in our survival. I asked ch engineer to start the Bow Thruster. He immediately understood what I had in mind. With the bow thruster running there was some hope of maintaining the heading! I had to try. Here Bada sahib gave me the all important piece of information that bow thruster will not be effective at speeds of over 2-3 knots. It may maintain heading at slow speeds. I reduced RPMs on either engine equally till the vessel began to respond to enable me to get the sea on my bows. (The best speed achieved was 2 knots in calm weather next day). This was the best that I could do. The crew was fully alert, monitoring the effectiveness of state one condition zulu imposed earlier. No one removed his life jacket.

This was around 1800 hrs. SAM baby was very very uncomfortable rolling and pitching wildly. Probably she understood our determination and protected us like a mom protects her unborn in her womb. Ch officer, bosun and a sukhani took turns at the helm with me shifting my weight from one leg to the other trying to look as cool and composed as I could, always standing next to them. A new hope floated with the vessel being able to maintain her heading though at no appreciable speed. The only thing that I was sure about was that we were still upright and floating. Many times I felt that we had gone under the sea.....but only to surface again.....it was a tough battle. But then toughs get going when the going gets tough.

This ordeal lasted right through the night. At about 0400 hrs. the next day the storm showed signs of abating and finally calm weather prevailed at around 0900. We had survived but did not know where we were. The sea was calm as if nothing had happened. I went around to assess the damages. The radar antennae had been blown off, mast broken, both whip aerials vanished with

just a stub showing on the port side one. The fury of the sea / winds was so much that the dead light covers around the bridge super structure were found flattened.

The situation was No radar, no gyro, no GPS, no steering, both rudders struck hard to stbd. Port VHF and a walkie talkie were operational so were the engines and the generators - thanks to effective water tight integrity. Now the challenge was to find out my present position. But, the best thing was everyone was up and about, happy and cheerful. I could smell galley operational. The mess boy brought my morning tea in a steel glass. No one was wearing a life jacket anymore.

While I was trying to figure a way out, pacing up and down the bridge I thought the surest way to make a land fall was to head east. Once close to land things could be figured out. Then I saw an old, obsolete MFDF receiver on the chart table panel. This equipment was supposed to be removed. Miraculous it's antenna was still in tact. I switched on the equipment and was trying to tune it when it locked on to a signal from Nly direction. I homed on to the signal and headed N. This was the most plausible thing to do. After about 5 minuets the signal faded but I had found a hopeful direction. Two hours later some jackets began appearing on the horizon.....a sign of hope. After another half an hour I saw the outline of a rust colored hull jack up rig.....Hit Drill – 1. She had switched on her aero beacon for helicopter operations. That was the signal the defunct MFDF had locked on to. I took out the latest IG (or was IB?) which gave positions of various rigs at sea on the western coast of India. “Sir, Hit Drill-1 is supposed to be in Heera field“, popped up RO. David plotted the position of the rig and it was in Heera field.

From here I could do eye ball navigation to reach anchorage. 4 miles (that was the best range VHF could get with a damaged aerial) SW of Prongs light house I could raise harbor control and reported my arrival around 1600 hrs.

From here on things were rather simple and easy.....I entered harbor with a black ball between two diamonds under own power and tied

up alongside Nhava late in the evening. Victorious.....to meet another challenge, 10 years later. 21 years old M T Maharishi Dayanand, a 1 lac tonner broke her single mooring rope while riding on the BHN buoy while crude was being pumped in.... This too was a during the monsoons.

P S : I still can't figure out as to how the vessel landed south of Heera field. As I was riding the storm (from a southerly direction) on my bows I was expecting to be in a much northerly position. **The unsung heros of this challenge were the 2nd engineer and an oiler. While I along with most others was on the bridge, these two never**

**left the engine room and ensured that operational machinery remained operational. That required some guts and.....faith in the command.**

**No rewards from any quarters except from Him.**

*Capt S Chander served in the Indian Navy from 1973 to 1994 and thereafter in the Merchant Marine till 2013. He has a rich experience working on OSVs, Oil Rigs, Bulk carriers and tankers.*

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## Obituary

It is with deep regret that the International Tribunal for the Law of the Sea announces the death of Judge and former President P. Chandrasekhara Rao on 11 October 2018.

Judge Chandrasekhara Rao was a Member of the Tribunal from 1996 until 2017 and its President from 1999 until 2002. Between 2000 and 2009 he served as President of the Special Chamber formed to deal with the Case concerning the Conservation and Sustainable Exploitation of Swordfish Stocks in the South-Eastern Pacific Ocean.

Born on 22 April 1936, Judge Chandrasekhara Rao received a Doctor of Laws from the University of Madras, India. He started his career at the Indian Society of International Law before joining the Indian Ministry of External Affairs.

Judge Chandrasekhara Rao served, inter alia, as Legal Adviser to the Permanent Mission of India to the United Nations, New York (1972–1976), Secretary to the Union Ministry of Law (1988–1996), Head of Delegation to annual sessions of the International Seabed Authority, Kingston, Jamaica, and to the Meeting of States Parties to the United Nations Convention on the Law of the Sea (1996) before being elected to the Tribunal, on 1 October 1996, as one of its founding members.

The Members of the Tribunal pay tribute to Judge P. Chandrasekhara Rao's work as President and Judge over two decades at the International Tribunal for the Law of the Sea and to his contribution to the development of international law of the sea.

*ITLOS Press Release*



## A Sailor's Tribute To Another Sailor

By Cmde SK Tewari (Retd)

On the 25th of August 2018, four days shy of his 82nd birthday, John McCain died at his home in Sedona, Arizona. For just over a year, he had fought with a particularly aggressive strain of malignant brain tumour. What was remarkable was, that not only had he continued to work at the Senate between bouts of chemotherapy but had performed his duties as the Chairman of the Senate Armed Services Committee from home. This was typical of his feisty nature and a reflection of his inner resilience.

Born to a Navy family on the 29th of August 1936 at the Coco Solo Naval Air Station in Panama, to Roberta and John S McCain (Jr), who later became a four star admiral, theirs was a typical navy family that moved along like flotsam, living out of suitcases and making new friends while they followed their father in his tours of duty around the world. His grandfather had also been a four star admiral in the US Navy. Although they were Southerners on both sides of the family, he regarded his heritage as military rather than Southern and chose to live by military values as emerged later.



**McCain With his Squadron**

His mother was a great influence in his early life teaching him to find joys in everyday life. She also instilled a love for history and culture in

young Johnny.

With so much of salt in his blood, it was not unexpected that John chose the Navy as a career. His performance at the academy was however below par on account of an indifference to rules and poor performance in academic subjects other than English Literature, History and Government Studies. Concerned at his wild ways and poor performance, his father was forced to visit the academy twice to reprimand young John.

He excelled in boxing, where he made up for technique with fearlessness and stubborn determination, traits for which he came to be well known. Although he finished near the bottom of his class, McCain acknowledged that the Academy had taught him “to serve for something greater than his self interest.”

McCain eventually became a Navy pilot. His flying skills which were initially below par improved gradually and by the time the Vietnam war arrived in 1966, he was regarded as a good pilot. Volunteering for combat duty he found himself on board the aircraft carrier USS *Forrestal*, where the first few missions were uneventful. One day, a missile accidentally self-ignited, took off and hit another parked aircraft rupturing its fuel tanks, resulting in a sea of burning fuel on deck. McCain crawled out of his aircraft, running through burning fuel with his flying suit on fire. After the flames on his clothes had been put out, he ran back to help another pilot, when an explosion threw him backwards. Disregarding his injuries, he joined sailors in disengaging bombs and helping throw them overboard.

This firsthand brush with the effects of ordnance, made him seriously question the morality of raining bombs on civilians.

Transferred to another carrier, McCain began flying combat missions in A4 Skyhawks, earning both a Navy Commendation Medal and the Air Medal within one month. On his 23rd mission over Hanoi, his aircraft was hit by a missile and

he ejected over Truc Bach Lake, in the process fracturing his right arm in three places, his left arm, and his right knee. He was pulled out and set upon by locals who beat him, stripped him of his clothes and injured him further, breaking his left shoulder as well.

It was in this state that he reached the 'Hanoi Hilton' Prison. He was beaten repeatedly and denied medical attention unless he divulged military information. His refusal to give them anything more than his name, rank, number and age did not amuse the Vietnamese

Soon enough the Vietcong discovered that his father was a serving Admiral and assumed that they had snagged someone from 'American aristocracy'. He was then given the barest of medical attention most of which was unsuccessful, all the while continuing his interrogation and beatings. Eventually the relentless pressure and merciless torture began to tell and he revealed his ship's name, his squadron and their intended target, which was by then irrelevant as it was several days old. Further coerced to give future targets, he named cities that had already been bombed, and for names of his squadron's members, he supplied instead, the names of the Green Bay Packers' offensive line.

While still on a stretcher, McCain was transferred to a prison camp where he shared his cell with two other American flyers. It was the care and attention by these two men, who were themselves barely able to get by, that really helped him to survive. A few months later his cellmates moved out. Thus began his solitary confinement. His cell was semi-darkened while a dim bulb remained on, night and day for the next two years. In the absence of any form of communication, it was a struggle to stay sane. He forced his mind to work, memorizing the smallest of details and even writing books in his head. With time he managed to open a communication channel comprising of taps, with the occupant of the next cell.

All the while, the Vietnamese used psychological methods to break him. On the day his father's appointment as C-in-C Pacific Forces was announced, they offered him a chance to go home

early for treatment, in return for a statement denouncing his own crimes. They were hoping for a publicity coup by sending him home early. Knowing that his assent, however attractive the prospect, would provide them this victory, while undermining the morale of other prisoners, McCain stood his ground and refused early release.

One day he was taken out of his cell and asked by the Camp Commander to confess for his crimes. When he refused, it was taken as a sign of defiance and he was beaten brutally, breaking his left arm again and his ribs. On the fourth day he reached the lowest point of his imprisonment. With his shattered left arm, he couldn't get up off the floor and just lay there in his own dysentery. Reduced to a beaten and battered wreck, he finally gave in.

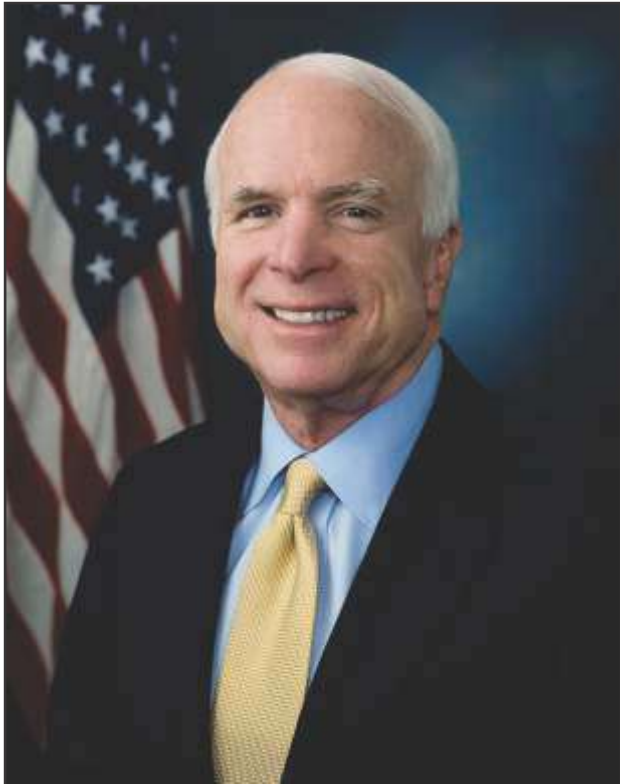
He learned that every man has his breaking point and he had reached his.

He prayed for strength to get through each day and slowly began to improve, though his treatment showed no signs of letting up. Beatings were commonly dished out for the tiniest of infractions and he was no exception, though he affirmed that some got much worse torture. McCain was eventually released in March 1972, after 5<sup>1/2</sup> years as a POW.

On return, he received extensive corrective surgery for his injuries and, recovered sufficiently to fly again. He was appointed to head a combat squadron where he worked hard to improve its flight safety record so that the squadron earned a unit commendation under his watch. In 1977 he was appointed to the Senate Armed Services Committee as a liaison officer, a job that most regarded as a glorified valet. But McCain turned it around into an apprenticeship for his later role.

His home life meanwhile took a downturn. The long separation had put his marriage under tremendous strain and he broke up with his wife Carol. Later he remarried, this time to Cindy Hensley. He retired from the Navy in 1981 with a chest full of medals, and moved to Arizona. After working for his father-in-law's firm for a while,

he went into politics, winning the North Arizona seat to the House of Representatives as a Republican candidate.



Adm John McCain

**In 1986, McCain got elected to the Senate and continued to be reelected till the very end. He became a member of the Armed Services Committee, Commerce Committee and other high profile organisations.** Along with the highs of visibility on the national stage, he had his share of lows, as he got embroiled in scandals and smear campaigns. His role in the Keating scandal earned him a mild rebuke but he continued to serve public office. McCain developed a reputation for independence and common sense politics. He took pride in challenging party leadership and establishment forces, becoming difficult to categorize politically, coming to be known as the Maverick Republican.

**He advocated for restoration of normal relations with Vietnam reasoning that instead of seeking to vainly isolate Vietnam from the rest of the world, America should use its**

**influence and power to render that country more susceptible to their own values.** He praised the Democrat president, Clinton for his efforts to reopen dialogue with Vietnam.

McCain was particularly aware of the problems of military veterans and in 1991 he worked successfully to introduce the Veterans Hospice Benefit Act, that provided care to terminally ill veterans, and, the Agent Orange Act, legislation that affirmed certain diseases suffered by veterans could be the result of harmful chemical exposure related to their service, making them eligible for compensation.

As a member of the Senate Select Committee on POW/MIA Affairs, along with fellow Vietnam vet John Kerry, Democrat, he investigated into the possibility of American POWs remaining in Vietnam. The committee could find no evidence and concluded that there were no more POWs, a finding that was opposed by some veterans' families.

In 1997, Time magazine counted McCain among the 25 most influential people in the US. Two years later he announced his candidacy as the Republican nominee for President. In his opening speech he downplayed his POW role stating, "I begin this campaign with no sense of entitlement, America doesn't owe me anything." He would eventually endorse President George Bush, though the two didn't see eye to eye on many issues.

**McCain made it his mission to go after issues where he saw the corrupting influence of large political contributions likely to twist issues in favour of large corporations, labour unions, wealthy individuals and other influencers.**

Along with Democrat Sen Feingold, he attempted to introduce a bill to limit the power of financial contributors. Despite widespread media support, the proposed reforms didn't make it to vote. Similarly he took on the tobacco industry, seeking to raise taxes on cigarettes, aimed at discouraging teenage smokers, and providing more money for health care. Once again, despite support from the Clinton administration, it failed to become a law,

primarily due to strong opposition from the moneyed tobacco lobby.

In 2008, he once again ran for President, choosing Alaska Governor Sarah Palin as his running mate, surprising many, as she was considered a political lightweight. Though it was a strategic error that eventually cost him the Presidency, as he later realized, he continued to defend Ms Palin's performance, never once criticising her. He later admitted that he should have chosen Sen Joseph Lieberman, as he had been advised. He had not forgotten the lessons learned at the Naval Academy years ago, it was important to stand up for your team while acknowledging your own mistakes.

He avoided getting personal and showed respect to his opponents, just as he had refused to vilify the Vietnamese. During his 2008 election rallies when a woman passed disparaging remarks against President Elect Obama, he immediately cautioned her saying, "No ma'am, he's a decent family man, a citizen with whom I just happen to have disagreements on fundamental issues."

It was a measure of his greatness that President Obama often consulted him in private, since neither doubted the other's sincerity and patriotism.

He avoided responding to provocative remarks. When President Trump, during one of his campaign speeches, tried to ridicule McCain's time as a prisoner and the torture he had endured, McCain remained silent, choosing instead to let the wave of public indignation that followed, do the speaking on his behalf.

McCain's insistence on doing what he believed to be the right thing was legendary. He had worked to introduce a bill to improve the lot of immigrants, while putting pressure on Mexico to strengthen their own measures to curb illegal migration. He had earlier even opposed US involvement in Lebanon and later Somalia, calling it a war without clear aims.

In 2017, he was diagnosed with brain cancer but came back to vote in the Senate on the Obama

Health Care bill, which had been opposed by President Trump. He voted against his own party on the move to dismantle the Bill, saying "I believe that we (Republicans and Dems) should learn to work together and we haven't really tried. Nor can I support (the motion) without know how much it would cost and how it would affect people."

McCain had no time for tyrants and he perceived Vladimir Putin of Russia as one such person. When in July 18, President Trump met with Putin in private, later speaking favourably of him, overriding his own intelligence reports, on Russian interference in the 2016 presidential elections, McCain scathingly declared, "No prior president has abased himself more abjectly before a tyrant."

A month later, he was gone. McCain chose his own pallbearers from both sides of the political divide. Leading his funeral procession were two ex-presidents – George Bush and Barak Obama. Among others was Vladimir Kara-Murza, a vocal critic of Putin.

Most of all, he was seen as a man of principle, someone happy to sit down with his political opponents if there was a compromise to be reached.

"I will work with anyone to get this country moving again," he once said. "I will listen to any idea that is offered in good faith and intended to help solve our problems."

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***Cmde Sanjay Kris Tewari retired from Indian Navy in 2013 and is presently the Business Head of CISB Technologies Pvt Ltd, Mumbai.***

## Significant Progress on Canada's Arctic & Offshore Patrol Ships

By Cdr MS Randhawa (Retd)

In the May edition of *Seagull*, (#93), the joining of the third and final mega-block of the future HMCS *Harry DeWolf*, to the previous two mega-blocks, was reported. The first-of-class ship has since been launched, and more recently, the second ship of the class, the future HMCS *Margaret Brooke*, had its first two mega-blocks rolled out.

**Launch of the future HMCS *Harry DeWolf*.** Indeed, a first for the Royal Canadian Navy, under the National Shipbuilding Strategy!

The first of its class, the future HMCS *Harry DeWolf* (AOPV 430) was launched at the Halifax Shipyard in Nova Scotia over the weekend of 15 Sep 2018! It's been 20 years since the last commissioned ship was launched in Canada, so this was a very exciting event. It also



Launch of the future HMCS *Harry DeWolf*.

**onto a submersible transport barge.**



marks a significant milestone for the Arctic and Offshore Patrol Ship (AOPS) project, which is a step closer towards delivering these new ice-

capable patrol vessels to the Royal Canadian Navy (RCN)

The launch evolution, where the ship was moved from land to water for the first time, began Friday

(14 Sep 18) morning on the rising tide. The AOPV 430 was then lifted and rolled onto a submersible transport barge. On Saturday, the barge was transported to the Bedford basin where it was slowly submerged.

AOPV 430 was towed back to the pier alongside Halifax Shipyard later in the evening.

A public naming ceremony, following RCN traditions, will be held soon.

As part of Initiative 30 in Canada's Defence Policy "Strong, Secure, Engaged", the delivery of AOPV 430, the first of the *Harry DeWolf*-

class patrol vessels, is expected in Summer 2019, following successful completion of sea trials and other acceptance activities.



**The two mega-blocks of future HMCS Margaret Brooke (L) are seen here with the future HMCS Harry DeWolf (R) which was launched just 10 days before the mega-blocks rolled out.**

**Mega-blocks rollout for future HMCS Margaret Brooke** The AOPS project is on a roll! Hot on the tail of the launch of the future HMCS Harry DeWolf, the first two of three mega-blocks of the second ship in the class, the future HMCS Margaret Brooke, were moved from inside the Irving Shipbuilding Inc.'s Assembly and Ultra

Hall facility to the exterior land level construction area, in Halifax, Nova Scotia, on September 22, 2018.

The third and final mega-block will be moved outside in Spring 2019, where the mega-blocks will be joined together to form the overall vessel for further outfitting. The milestones represent significant progress with the construction of the Harry DeWolf-class arctic and offshore vessels. An impressive 350 kilometers (km) of electrical cable have been installed thus far for the first two ships; that's 3,400

times the length of the ship!

*Cdr MS Randhawa (Retd) is IMF'S Correspondent in Canada*



above - rendering of the future AOPS operating in the Arctic ice.

## From Kashmir To Kochi – Bonding Beyond The Battlefield

By Cmde Srikant Kesnur

A quietly significant event took place earlier this week, on 24 September, in the Naval dockyard, Mumbai when Indian Navy's latest and most modern guided missile destroyer, *INS Kochi*, was affiliated to the Jammu and Kashmir Light Infantry (JAK LI), one of the youngest regiments in the Indian Army. Gently lapping waters caressed *INS Kochi*, the venue with just the slight hint of a roll to give the guests in Olive Green a feel of 'naval terrain'. Vice Admiral Girish Luthra, the FOC-in-C Western Naval Command, was the Chief Guest and inspected a combined guard of honour. The function was conducted in typical military style – brief and precise with all pomp and protocol, with enthusiastic participation by the men of both the units, whites and greens in perfect harmony.



**J & K LI Band Performing on deck of *INS Kochi***

Affiliations between units in Armed forces, by themselves, evoke some curiosity – they are quaint traditions of friendship and bonding between fighting men that may seem anachronistic in an age of two minute noodles and instant selfies. However, they have been the

norm over last three decades or so as our Armed Forces operated in an increasingly joint services environment. Some affiliations have been based on natural symbolism (*INS Khukri* with the Gurkha regiment, *INS Rajput* with the Rajput regiment etc), some on regional commonality in names (*INS Mumbai* with Marathi Light Infantry, *INS Mysore* with the Madras Regiment and such like), some on having operated together (*INS Viraat* with Garhwal Rifles) and so on. The list is long and interesting but even by that yardstick that of Kochi with JAK LI is fascinating and heart-warming.

JAK LI was affiliated earlier to the *INS Ganga* (a ship I served on for almost 20 months), named after our holiest river, but after the latter's decommissioning earlier this year was without a

naval affiliated unit. When the authorities decided on Kochi it indeed seemed a tailor made match. Not just because of the similarities but because of what they represent.

*Kochi* oozes modernity bristling with state of the art sensors and weapons and a menacing silhouette. Commissioned exactly three years ago, on this date 30 Sep, she is indigenously built, a proud product of the Indian Naval design bureau and the Mazagon Dock in Mumbai and among the finest and most advanced warships in her class. Deriving her name from

the vibrant port city, she also evokes the spirit of Kerala - sun bathed, washed by seas and steeped in maritime tradition. The tiny state at the southern tip which is 'janmabhoomi to all of us in the navy' as Admiral Sunil Lanba, the Chief of Naval Staff, evocatively said, recently, because we all have

our tutelage in the city of Kochi, where our training headquarters and institutions are located. The JAK LI too is among our youngest regiments, formed in a free India after our independence. Formed in 1947- 48 from volunteers from J and K, to take on the Pak supported 'Kabailies', it was initially the J and K militia that evolved into a regular Army regiment in 1972. It evokes the flavour of India's northern most parts, the hills and rivers, the mighty Himalayas, the awe inspiring beauty and ruggedness of mountains and cold climes.

Clifford Norghum (Maha Vir Chakra, Posthumous, Kargil hero) are among the few names that easily come to mind when one thinks of this regiment. The regiment has won a staggering 1772 gallantry and distinguished awards thus far for its legendary exploits (readers may google for more details), including the title “Bravest of the Brave” for the 8 JAK LI. For a young Navy unit, this association will indeed inspire its own journey through the passage of time – to tread fearlessly and undaunted.

The Army and Navy epitomise some of the best values of this country and Cosmopolitanism is one of them. In fact, from time immemorial Maritime traditions and practices have been marinated in cosmopolitan ethos, arising from seas being the global commons. We have encoded the same in our DNA and an Indian Naval ship has an amazing range of faiths, regions, languages, and all the 'infinite varieties' that India is blessed to have. There is the same cheerful celebration of all festivals and traditions and an automatic ownership of our multicultural ethos. Ultimately, the Navy, the Army and Air Force know that the



**PVC Recipient Hony Capt Bana Singh accepting a memento from CO INS Kochi**

What distinguishes the JAK LI among India's illustrious Army regiments is that despite its recent vintage it is among the most decorated regiments with some great tales of bravery and valour. The Regiment has participated in all the battles and conflicts this country has witnessed since independence. Param Vir Chakra Sub Maj (and Hon Capt) Bana Singh – the hero of Siachen, Nb Sub Chunni Lal (Ashok Chakra, Posthumous, Vir Chakra, Sena Medal Gallantry, arguably India's most decorated soldier), Lt Triveni Singh (Ashok Chakra, Posthumous, who saved hundreds of passengers in Jammu Railway station in Jan 2004 foiling a terrorist attack), Capt

bullet or the missile fired at them has no names or faiths written on it, and we all swim together or sink together. The affiliation of these two units is not mere association of two combat units but an intertwining of ideas and the values they represent, in a bespoke design that is characteristically 'fauji' and uniquely Indian. My own undoubted 'most cherished' moment was a few minutes spent with the living legend Param Vir Chakra Bana Singh. To be with one who has been conferred the highest gallantry award gave me goose pimples. There are just three of them alive as of today. I felt proud saluting him and



listening to him speak in his soft voice. Bana Singh and Late Chunni Lal belong to the famous 8 JAK LI. The Colonel of the Regiment Lt Gen Satish Dua, the Chief of Integrated Defence Staff to the Chairman Chiefs of Staff Committee, also of 8 J&K LI, was a guest of honour at the affiliation ceremony.

affiliation to explore the historical, social and cultural contents and contexts in which the Navy and Army operated.

Affiliations such as that and the one that happened this week are about bindings, establishing linkages and about confluence of traditions. When the traditions are noble and virtuous the bonding extends across several domains and goes 'beyond the Battlefield'. And to Kochi, there could not have been a better way to celebrate its third anniversary. Happy Birthday to the 'tough tusker'.

**Author's Note.** This piece was written on 30 Sep 18, on the occasion of the third anniversary of INS Kochi.

*Cmde Srikant Kesnur is Director Maritime Warfare Centre at Mumbai*



**From left Capt S Kutty CO INS Kochi, Lt Gen Satish Dua Col Comdt J&K LI, VAdm G Luthra FOC-in-C WNC, Hony Capt Bana Singh, RAdm M Hampiholi FOCWF, OC 8 J&K LI**

In 2003, when INS Mumbai and the Maratha Light Infantry were affiliated, I was fortunate to be assigned the job of writing a book on the event. That was my second book project and after lot of deliberation my team and I hit on the title 'Beyond the Battlefield' for the book. It was undoubtedly inspired by the seminal work on cricket "Beyond a Boundary" by CLR James. Just as that book extended beyond the game to explore aspects of colonialism, culture and politics, our book took a wide angle gaze of that



**Naval Sailors & Jawans of 8 J&K LI on the deck of INS Kochi**



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## Letter from London

By Paul Ridgway FRGS FRIN

**LISW 2019.** On 12 September the twelve-month countdown began to what promises to be the largest and most successful London International Shipping Week which will be held from 9-13 September 2019. LISW19's overarching theme International Trade in a Changing World will be supported by a series of sub themes: Growing, Innovating and Partnering. These will provide the backdrop to the flagship LISW19 conference to be held at the Grosvenor House Hotel, Park Lane on 12 September next. Sponsors are eagerly being sought I understand.

Over 20,000 international shipping and maritime decision makers are expected to descend on London on those dates and it is anticipated that more than 200 industry events will be held during the week in what will be a highly effective backdrop to discussions and gatherings at many levels. Over 60 international industry trade associations, UK Government departments and the Devolved Administrations have so far signed up as Supporting Organisations of London International Shipping Week 2019.

Speaking at an official London reception marking the launch of LISW19, Lord Mountevans, Chairman of the LISW19 Board of Advisors, said the advent of smart technology, a shift in global trade patterns as well as disruptive forces on the intermodal supply chain look set to challenge shipping's status quo as well as throw up countless opportunities for the years ahead.

Welcoming the launch, Shipping Minister Nusrat Ghani said: 'London International Shipping Week is one of the highlights of the maritime calendar and next year will be no different.'

**Accidental CO2 releases onboard.** In September the Marine Accident Investigation Branch issued an investigation report into the accidental CO2 releases on board two British-flagged vessels oceans apart: *Eddystone* and *Red Eagle*.

On 8 June 2016 the ro-ro vessel *Eddystone* experienced an unintentional release of CO2

from its fixed fire-extinguishing system while in the Red Sea. A similar incident took place on 17 July 2017 on board the ro-ro passenger ferry *Red Eagle* while on passage from the Isle of Wight to Southampton. In both cases, gas leaked into the CO2 cylinder compartment, but was prevented from entering the engine room by the main distribution valve which remained closed.



**Accidental release of CO2.**

**Photo: MoD Crown Copyright 2018 ©.**

Fortunately, no one was harmed in either of these incidents. However, the unintended release of CO2 from fire-extinguishing systems has caused 72 deaths and 145 injuries, mainly in the marine industry, between 1975 and 2000. An MAIB report delivered two safety lessons: (i) The maintenance of the fire-extinguishing systems was inadequate and (ii) the available guidance for the marine industry on the maintenance and inspection of CO2 fixed fire-extinguishing systems was insufficient.

Recommendations have been made to the Maritime & Coastguard Agency (MCA) to ensure that all safety devices fitted to CO2 fixed fire-extinguishing systems are maintained and surveyed appropriately.

**HMS *Prince of Wales* receives her first CO.** On 11 September Commodore Stephen Moorhouse RN took command of the UK's second aircraft carrier, HMS *Prince of Wales*, currently under build in Scotland. The warship is expected to leave Rosyth in late 2019 for contractor sea trials. Prince of Wales is being fitted out in Rosyth for her own bright future as sister ship to HMS *Queen Elizabeth* is currently visiting the United States for the first time.

**The 2018 Merchant Navy Medal for Meritorious Service announced.** Recipients of the 2018 Merchant Navy Medal were announced on 3 September, Merchant Navy Day. Brief details of the activities for which they were recognised are : services to the promotion of the maritime sector, welfare of fishermen, careers of seafarers and their welfare, acts of bravery in saving life etc.

**It is hoped that award of the Merchant Navy Medal and the celebration of a Merchant Navy Day may encourage administrations around the world to record the value of their merchant seafarers and their deeds.**

It is hoped that award of the Merchant Navy Medal and the celebration of a Merchant Navy Day may encourage administrations around the world to record the value of their merchant seafarers and their deeds.

You may ask, **Why 3 September?** In 1939 it was the first day of the Second World War and on this day the Donaldson liner Athenia on passage from the UK to Canada's east coast was torpedoed and sunk the following day in waters to the west of Ireland. A total of 117 civilian passengers and crew lost their lives and the sinking was condemned as a war crime.

**A Campaign to tackle Offshore Fatigue.** It was announced on 23 August that the National

Workboat Association (NWA), the safety standards, skills and trade association for the UK's workboat industry was taking steps to address the issue of crewmember fatigue in the offshore energy support vessel (OESV) sector through an official campaign and poster resource. This comes in direct response to widespread concern over the occurrence of fatigue among workboat crew. Such fatigue was first highlighted by members of the workboat and offshore wind sectors at the NWA's inaugural Offshore Wind Safety Forum, in September 2017.

As wind farms increase in size, scale and technological advancement, OESV operators find themselves working further away from shore, with longer journey times and the potential for extended shift patterns. With project



Photo: MoD Crown Copyright 2018 ©

developers aiming to maximise the uptime of their contracted offshore workers, working hours can increase beyond advisable and, on occasion, legal limits leaving crews overtired and vulnerable to making errors.

This situation is often compounded by the contractual relationships in offshore wind construction, which can see projects handed over to new, sometimes less experienced, coordination. As project ETA pressure increases, crews are often at risk of missing signs of fatigue.

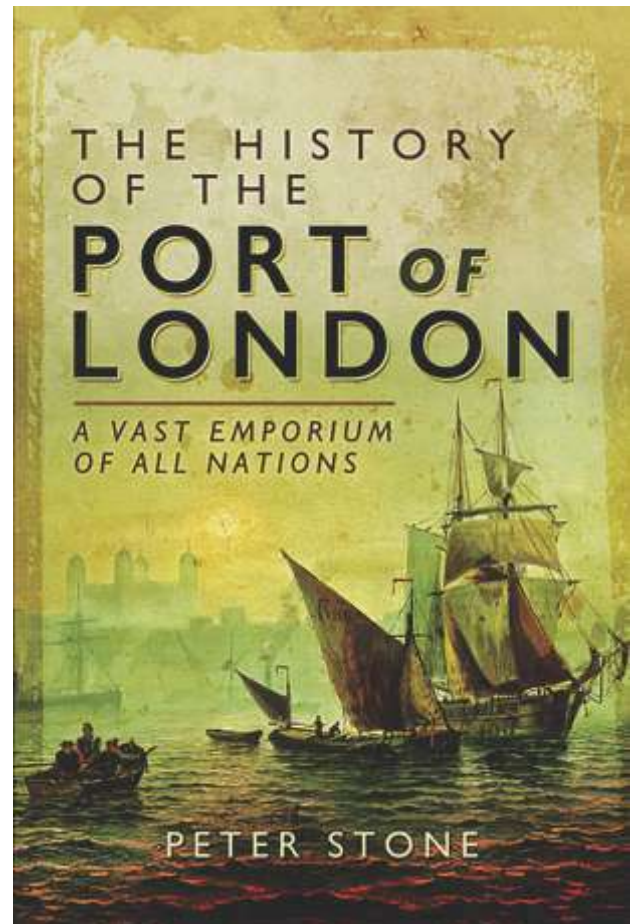
**A Valuable Port History.** In recent weeks from Pen & Sword History (<https://www.pen-and-sword.co.uk/>) has come *The History of the Port of London: A Vast Emporium of All Nations*, by Peter Stone, 250 pages, hardback, ISBN: 978 147386 0377, price £19.99.

For nearly half a century this reviewer has worked in the shadow of the former Port of London Authority HQ (opened in 1922) on Tower Hill in the City of London, the Square Mile. Approximately one quarter of that area comprises the postal district of EC3, the home of shipping and insurance with HQs of Lloyd's of London, Lloyd's Register, the Baltic Exchange and Trinity House, to list a few still within.

Without doubt the River Thames has been integral to the prosperity of London since Roman times and the reader is introduced to trade on the Thames from those days to the present embracing the medieval port, the new docks of the early 19th century, the steam age and the Port of London Act of 1908 which gave the authority (widely known as the PLA) its status. Two world wars are recorded then follows the closure of the Upper Port and development of what we call today Docklands leaving us with the current modern port with its huge responsibilities. We must never forget that from here explorers sailed away on voyages of discovery to distant lands. Colonies

were established and a great Empire grew. Funding their ships and cargoes helped make the City of London into the world's leading financial centre. A well-presented volume of a shipping place of world import.

*Paul Ridgway is IMF's Correspondent in London.*



**PLA HISTORY OF THE PORT OF LONDON**

**Without doubt the River Thames has been integral to the prosperity of London since Roman times. .**

## Gallimaufry

**LNG-Powered ConRo *El Coquí* Arrives in Puerto Rico for First Time.** Crowley Maritime Corp.'s new combination container/roll on-roll off "ConRo" ship *El Coquí* has delivered its first cargo from Jacksonville, Florida to the company's Isla Grande Terminal in San Juan. *El Coquí*, one of the world's first ConRos powered by liquefied natural gas (LNG), departed Jacksonville and arrived in San Juan on 30 July 18, completing the maiden voyage connecting the U.S. mainland with Puerto Rico.

The *El Coquí* has a cruising speed of 22 knots and can carry about 2,400 TEUs (twenty-foot equivalent units) of containers in a wide range of sizes and types – including 53-foot by 102-inch-wide, high-capacity containers and refrigerated containers.



**LNG-Powered ConRo *El Coquí* arrives in Puerto Rico**

**Rim of the Pacific Exercise.** (Bloomberg Opinion) The vast annual military operation known as the Rim of the Pacific Exercise (simply RIMPAC in Pentagon jargon) just concluded on the beaches of Southern California with a huge demonstration of an amphibious assault, which involves sending troops ashore from warships at sea — a highly complex maneuver whether D-Day or present day.

The exercise is held every two years all over the Pacific Basin, and is the largest international

maritime exercise in the world. It is globally regarded by naval officers as the Olympic Games of naval power. Hosted by the U.S. Pacific Fleet, which is headquartered in Pearl Harbor, it normally includes warships and troops from every branch of the U.S. armed forces, and those of more than 20 foreign nations. Note: RIMPAC is designed and run by the U.S. 3rd Fleet.

India, an emerging maritime power, had a significant operational role for the first time this year. Several European allies with interests in the Pacific, including the U.K., France and Germany, also send ships. Israel sends a small staff contingent.

**Iran Test-Fired Anti-Ship Missile in Strait of Hormuz.** Iran test-fired a short-range anti-ship missile in the Strait of Hormuz during naval drills, that Washington believes were aimed at sending a message as the United States reimposes sanctions on Tehran, a U.S. official. The official, however, did not suggest that such a missile test was unusual during naval exercises or that it was carried out unsafely, noting it occurred in what could be described as Iranian territorial waters in the Strait.

Iran's Revolutionary Guards confirmed it had held war games in the Gulf over the past several days, saying they were aimed at "confronting possible threats" by enemies. U.S. Army General Joseph Votel, head of the U.S. military's Central Command, said earlier this week the scope and scale of the exercises were similar to ones Iran had carried out in the past. But the timing of this particular set of exercises was designed to get Washington's attention.

**Shipbuilding Contract Signed for Unmanned, Zero-Emission Container Ship 'Yara Birkeland'.** The world's first autonomous and electric container ship is one step closer to reality with a shipbuilding contract now signed and sealed for the vessel. Norwegian technology firm Kongsberg, who is partnering

with Yara on the project, announced today that Yara has signed a deal worth NOK 250 million (\$25.9 million) with VARD to build the vessel with launch scheduled for early 2020.

The vessel will initially start out with manned operation but quickly move to fully autonomous operation by 2022. In May 2017, YARA and Kongsberg announced a partnership 'to build the worlds first autonomous, electric containership. The vessel, named Yara Birkeland, will replace 40,000 truckloads per year, reducing NOx and CO2 emissions in the process. With the shipyard, selected, construction is now set to begin. VARD combines experience in customized ship building with leading innovation, and will deliver a game-changing vessel which will help us lower our emissions, and contribute to feeding the world while protecting the planet," says Svein Tore Holsether, President and CEO of YARA.

**Maersk Sends First Containership Through Arctic Route.** For Maersk, the trip by the Northern Sea Route is a one-off trial for now. But, as climate change makes the Arctic route more accessible, there's growing interest that it could become a viable alternative to the Suez Canal, particularly from Russia.

A Maersk vessel loaded with Russian fish and South Korean electronics will next week become the first container ship to navigate an Arctic sea route that Russia hopes will become a new shipping highway. The Arctic voyage by the 3,600 20-foot container capacity *Venta Maersk* is the latest step in the expansion of the so-called Northern Sea Route which is becoming more accessible to ships as climate change reduces the amount of sea ice.

The brand new *Venta Maersk*, will also collect scientific data, said Maersk, underlining that the voyage is a one-off trial for now. The decision by Maersk, the world's biggest container shipping group, to test out the route is a positive sign for Russia, which hopes this could become a mini Suez Canal, cutting sea transport times from Asia to Europe.

### **Iran Says It Has Full Control Of Gulf, U.S. Navy Does Not Belong There.**

Tehran has suggested it could take military action in the Gulf to block other countries' oil exports in retaliation for U.S. sanctions intended to halt its sales of crude. Washington maintains a fleet in the Gulf that protects oil shipping routes. Tangsiri said Iran had full control of the Gulf and the Strait of Hormuz that leads into it. Closing the strait would be the most direct way of blocking shipping.

"We can ensure the security of the Persian Gulf and there is no need for the presence of aliens like the U.S. and the countries whose home is not in here," he said in the quote, which appeared in English translation on Tasnim. He added, "All the carriers and military and non-military ships will be controlled and there is full supervision over the Persian Gulf. Our presence in the region is physical and constant and night and day."

Tension between Iran and the United States has escalated since President Donald Trump pulled out of a 2015 nuclear deal between Iran and world powers in May and reimposed sanctions. Senior U.S. officials have said they aim to reduce Iran's oil exports to zero. Iran's Supreme Leader Ayatollah Ali Khamenei, the most senior authority in the Islamic Republic, said last month that he supports the idea that if Iran is not allowed to export oil then no country should export oil from the Gulf.

**U.S. Destroyer Sails Near Disputed South China Sea Islands.** A U.S. Navy destroyer sailed near islands claimed by China in the South China Sea on 30 Sept 18, a U.S. official told Reuters, potentially angering Beijing at a time of tense relations between the two countries. Beijing and Washington are locked in a trade war that has seen them impose increasingly severe rounds of tariffs on each other's imports. The official, speaking on condition of anonymity, said the destroyer Decatur traveled within 12 nautical miles of Gaven and Johnson Reefs in the Spratly Islands.

*Courtesy : gCaptain*

**Book Review**  
**Givers of Life**  
By Deepak Rikhye

Archaeological evidence shows that many settlements of the Indus Civilization developed along the banks of a river called the Ghaggar-Hakra in north-west India and Pakistan. Scholars in their research found this to be a major Himalayan river that dried up during the course of a millennia, either due to climactic or tectonic changes.

The other significant water source has been the Indus which is one of Asia's chief rivers. An unusual book was written by Alice Albinia, titled '**Empires of the Indus**'. Albinia narrates a

fascinating account of this river which she begins with its outlet, from the Port City of Karachi,

where she regrets the river is “festered” with filth as it empties into the Arabian Sea. The river's course is outlined to Ladakh and finally we are informed about its fountainhead, in the Himalayas. Albinia describes caves, at the river bed, which she sights on the way, depicting ancient engravings in stone, all of which is testimony to a distant era, before the 3rd millennium B.C.

## Givers of life



**Unlike Mikhail Sholokhov's *And Quiet Flows the Don*,**  
a major book on the rivers of the sub-continent is yet to be penned



Throughout history rivers have been the most efficient and the only means of entry and passage for explorers, traders, conquerors and settlers. The role of these water bodies become integral to the culture and religion of people, as reflected by the Ganges, which flows along many towns and cities, including the holy city of Varanasi.

Similar to the Indus, the Ganges suffers from the ill effects of pollution. Some 140 species of fish and the Ganges River Dolphin are threatened. An environmental initiative, The Ganga Action Plan, has been unsuccessful, so far, due to lack of technical expertise.

In hymns and literature rivers are referred to as a source of inspiration and a means of sustainable life. They are a store house of different varieties of fish, rich in protein, with water nutrients, like seaweed and plankton, which are a source of food for fish, certain animals and birds, in this pyramid of life.

The Indus being polluted at its mouth, among other portions of the river, will be adversely impacted by pollution because the ecosystem, neighbouring its outlet, supports temperate forests and wildlife which highlights the importance of cleansing the Indus from pollutants.

Although rivers are mentioned, even in the Vedas, where the Indus is described as a “warrior” among rivers, with the exception of Albinia's narrative, we are not really treated to a book that encompasses any of our rivers, their integral role to people and a river's link to our culture. Rivers can indeed relate an exclusive story, but we need to traverse and explore an area in Russia, where Mikhail Alexandrovich Sholokhov, wrote an epic novel in 1940, titled, **And Quiet Flows the Don**. He writes about the River Don with a feeling of reverence, which is portrayed through his characters in the plot. The book gifted Sholokhov the coveted Nobel Prize, for Literature, in 1965. His efforts were rewarded with another accolade, from critics and scholars all over the world, who revealed one more extraordinary quality, that this narrative could be compared to Tolstoy's famous War and

Peace. Writers articulated that these incredible achievements happened only because of a river!

The book, *And Quiet Flows the Don*, is considered to be one of the most significant books of world and Russian literature, in the twentieth century. It depicts the lives and struggles of Don Cossacks during the First World War, the Russian Revolution and Russian Civil War. Sholokhov narrates the life of the Cossacks, living in the Don River Valley, just before World War 1, and reflects their lives, hopes and disappointments during a crisis. Viewing the peaceful Don was a means of catharsis for the Cossacks, during those troubled times. It was a welcome diversion in contrast to the prevailing backdrop of war and strife.

The narrative has actually brought to life a page of history, that sweeps along and never forgets the Don during any portion of the storyline. The 870 km river is a significant feature in the author's thoughts as one of his characters, Grigory goes out fishing with his father, when he describes how, 'The water slapped noisily against the sides of the boat...'

Sholokhov articulates how time meanders by like the ever flowing Don-'And over the village slipped the days, passing into nights...The wind howled and glassified with an autumnal translucent greenish-azure, the Don flowed tranquilly down to the sea.' Sholokhov depicts the yearning for tranquility which, at the time, was only possible by viewing the Don.

There are festivals during harvests and people believe the harvests are due to blessings God bestows on them through the River Don and its fertile valley. People hold hands, to form circles, and dance late into the night. They sing a song, composed centuries ago and the chorus, at the end of each verse, reverberates into the Don Valley'The Don! The Don! The gentle Don! Our father, giver of our food! Hurrah !

*Deepak Rikhye was with Williamson Magor Group for 26 years. He is also journalist and actor*

## INDIA STRATEGIC REPORT ON IMF SUPPORTED SIEMEN'S SHIP BUILDING CONCLAVE IN MUMBAI

By Cmde Ranjit B Rai (Retd)

As part of its silver jubilee celebrations IMF supported for the seventh time the annual Siemens Indian Shipbuilding Executive Summit in Mumbai on 6th September. It was attended by RAdm RK Sharwat President, and COO Bruno Tete of Naval Group (India) who are delivering the Scorpene submarines, CMD Goa Shipyard RAdm Shekhar Mittal who is building OPVs for the Coast Guard and General Managers of MSDL, L&T, Reliance Shipbuilding, who are delivering ships and few serving and retired Naval officers and shipping company executives and invitees from IMF.

The theme for the conclave was '**Digital Ship Construction for the Indian Marine Industry and Imperatives for Streamlining Construction and Assembly of Ships**'. The subject holds importance as Indian PSU and private shipbuilders have not been able to control build time lines or costs for building warships in India. Therefore India has largely lost out to foreign yards for merchant ship building which could have provided employment and earned foreign exchange.

Many blamed it on the policy which does not encourage incentive to the private sector in this capital intensive industry. This came out in the proceedings. It also came out that the competition from abroad and even China is gaining, because of the lack of technology in Indian PSU yards, and lack of orders to the private yards to encourage them to invest in technology. ABG Shipyard which had orders for three Indian Naval training ships has closed production and the Navy has encashed its bank guarantees. Alcock Ashdown at Bhavnagar which had pending orders for five Catamaran Survey vessels for the Navy has shut shop. The private shipbuilders have represented to the Minister of Defence to attend to their distress.

VAdm Pradeep Chauhan Director, NMF delivered the key note. His stress was that

maritime sector with shipbuilding and security of, and from the seas for India will continue to be of strategic importance, as India, has a promising economy, advantageous geographic location and maritime history. Shipbuilding he explained is a key maritime industry which has contributed significantly to India's rise in the past when wooden ships were built in numbers for the British in naval dockyard by the Wadia builders. To stay competitive in shipbuilding there is an urgent need to upgrade the outdated construction methods and bring in latest techniques. The Navy can provide the wherewithal in terms of huge order book which will be an incentive for private shipyards to adapt latest technology.

In another key note lecture, Cmde Mukesh Bhargava of Larsen & Toubro Ltd(L&T) indicated L&T lacked large orders and was currently, building fifty four fast interceptor crafts (FIC) and five OPVs for the Indian Coast Guard. He further added that the FICs were built by L&T with inhouse design. Bhargava also listed that deliveries are expected to be completed far ahead of the contractual date.

The Kattupalli yard is also building ships for Halul Offshore of Qatar. These include Platform Supply Vessels (PSVs) and Anchor Handling Tug Support & Stand-by (AHTSS) vessels. In these boats, L&T are providing high-tech Dynamic Positioning Systems, which create automated thrust, thus stabilising the ship, when anchored in rough seas and handling cargo. L&T has also played a significant role in building the first nuclear powered submarine. He displayed how L&T is equipped with the latest 3-D modeling and simulation work-stations as well as with Virtual Reality facilities at their Mumbai centre. Today ship models can be designed and tested and ships built swiftly. In the sidelines it was stated L&T awaits the opening of bids for the 4 LPDs where Naval Group has partnered Reliance

Defence and L&T has partnered Navantia of Spain to build in India.

The two key note addresses were followed by four round table discussions on Integration of Shipbuilding Supply Chain; Modernization of Indian ports to enhance ship repair capabilities; Digitalization of shipbuilding processes and Digitalization of lifecycle management; Maintenance, Repair & Overhaul which were summed up by leaders of each team. Seimen's address was given by Mr Gautam Datta explaining the benefits of PLN software.

V Adm B.S. Randhawa former Chief of Materiel Indian Navy, currently Principal Defence Advisor, Indian Register of Shipping summed up the issues regarding designing welding,

automation and robotisation as well as the integration of the design. He said fabrication processes can lead to a much increased productivity and transform shipbuilding from labour intensive to a technology intensive sector. He said the policy to let PSU yards build large warships and give private yards all other orders will rejuvenate shipbuilding in India and inject latest software and technology in shipyards with investment. Mr. Suprakash Chaudhuri, Managing Director Siemens Industry Software (India) gave the vote of thanks.

*Cmde Ranjit B Rai(Retd) is former DNO and DNI at NHQ.*



From left : RAdm Chandrashekhar Rao Former DGND, IG SK Goyal (Retd), VAdm BS Randhawa (Retd), RAdm S Mittal (CMD GSL), Cmde Ranjit Rai (Retd) & Cmde A. Jai Singh (Retd)

## Submarine Communication cables

Cdr Mukund Yeolekar (Retd)

We commonly hear about receipt of a Cable from overseas. Most commonly it is understood to have been received through Wireless/Satellite communication sets or through telegraph cables laid over land. Few people know that there are thousands of kilometres of under-water cables laid across the oceans that carry the communication signals to and from continents. In today's world we have Satellite communication, but that accounts for a miniscule percentage of all transcontinental communications.

**History of Submarine Cables.** It would be interesting to know the history of Under-water Submarine cables. In 1850 the Anglo-French Telegraph Company laid the first line across the English Channel. Later cables were laid between Britain and Ireland and to countries in the European continent. The first transcontinental cable was laid in 1858 from Ireland to Newfoundland, and made telegraph communication possible between England and Canada. Those days the cable laying was beset with many problems. Later better technology was developed and a cable reached India via the Mediterranean and Aden in 1870, thus connecting Bombay with London. By 1872, the Eastern Telegraph Company was formed and Bombay was linked by submarine cables to Australia via Singapore. In 1876 the British Empire was linked to Australia and New Zealand. In 1902-03 Trans-Pacific cables were laid, bringing US and Canada in touch with Hawaii, Australia and the Philippines. Japan was connected into the network in 1906. The first telephone cable from Hawaii to Japan was only laid in 1960s. In 1990s the cables with repeater amplifiers were introduced.

**Technical Problems.** In the 19th century technology, high voltage was used to overcome the high electrical resistance of the thousands of miles of cables. Consequently the cables' own

combined capacitance and inductance caused distortion of the transmitted signal and reduction of band width. The core of cables acted as a capacitor distributed along the length of the cable which, coupled with the resistance and inductance of the cable, limited the speed at which a signal traveled through the conductor of the cable. The data rate of telegraph was as low as 10-12 word per minute.

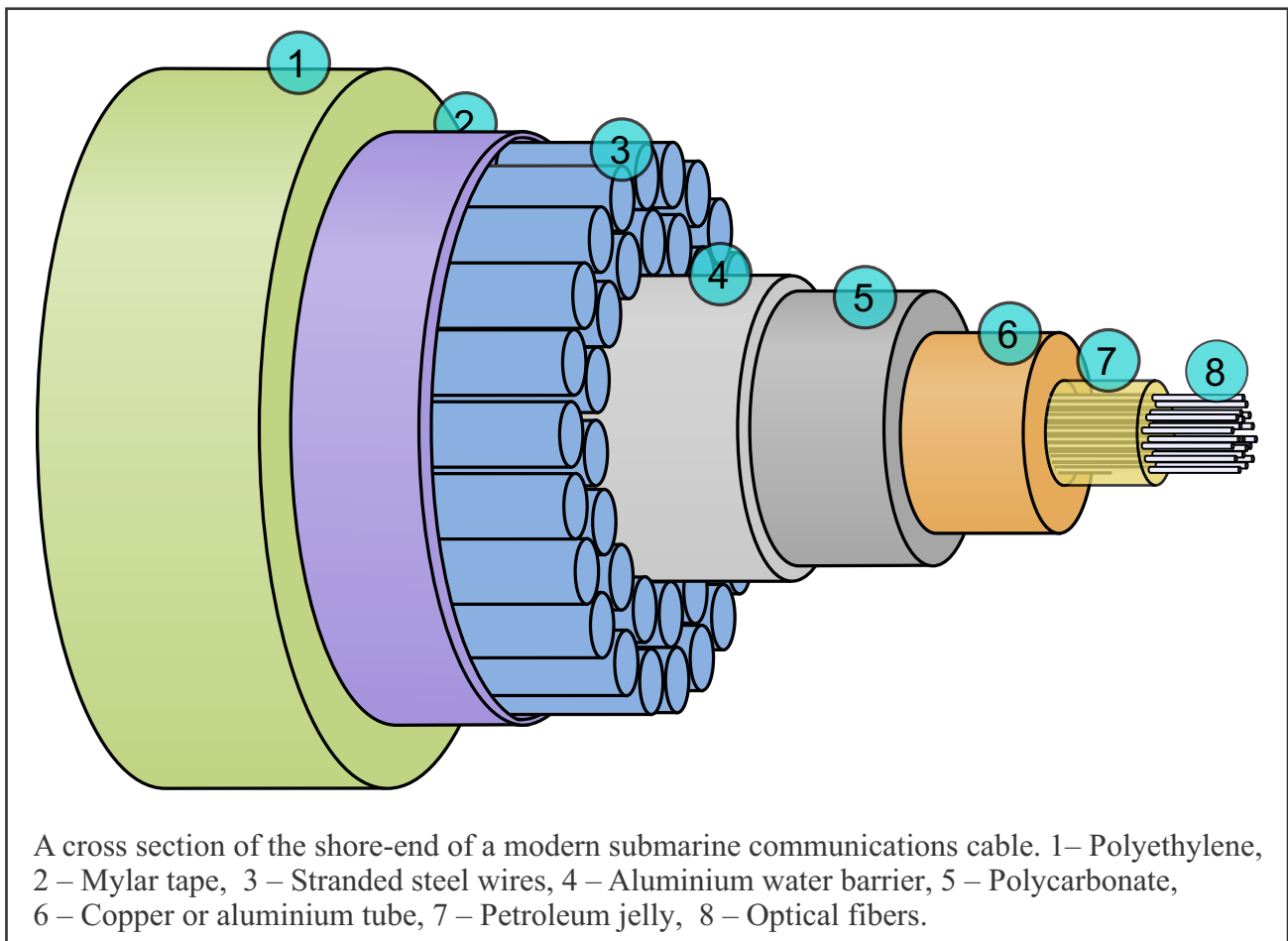
**Modern Developments.** The first Trans-Atlantic Telephone cables inaugurated in 1956 carried 36 phone channels. Then came the transoceanic coaxial cables in the 1960s that carried frequency modulated voice signals. Initially they had vacuum tube amplifiers and later transistor amplifiers. They can still work but are unused due to their low capacity. Fiber optic cables entered the scene in 1988 with the TAT-8 which has multiple pairs of fibers. Each pair has one fiber in each direction. Optical fiber repeaters use a solid state optical amplifier. A solid state Laser is used for the transmission of the signal along with amplification from each length of fiber to the next. The optical fibers used provide high capacity and very good clarity in signals (even better than satellites) and there can be runs of over 100 KM between repeaters. Among the pioneers in this field was AT&T which invested and built two specialized fiber-optic cable laying vessels. Later Submarine Branching units were developed so that more than one destination could be served by a single cable system. Sufficient terrestrial back-up capability is maintained since the same is not feasible through Satellite links. A Mesh Network is set up whereby fast switching equipment is used to transfer services between network paths. Consequently more paths become available to use between two points and there is less possibility of failures.

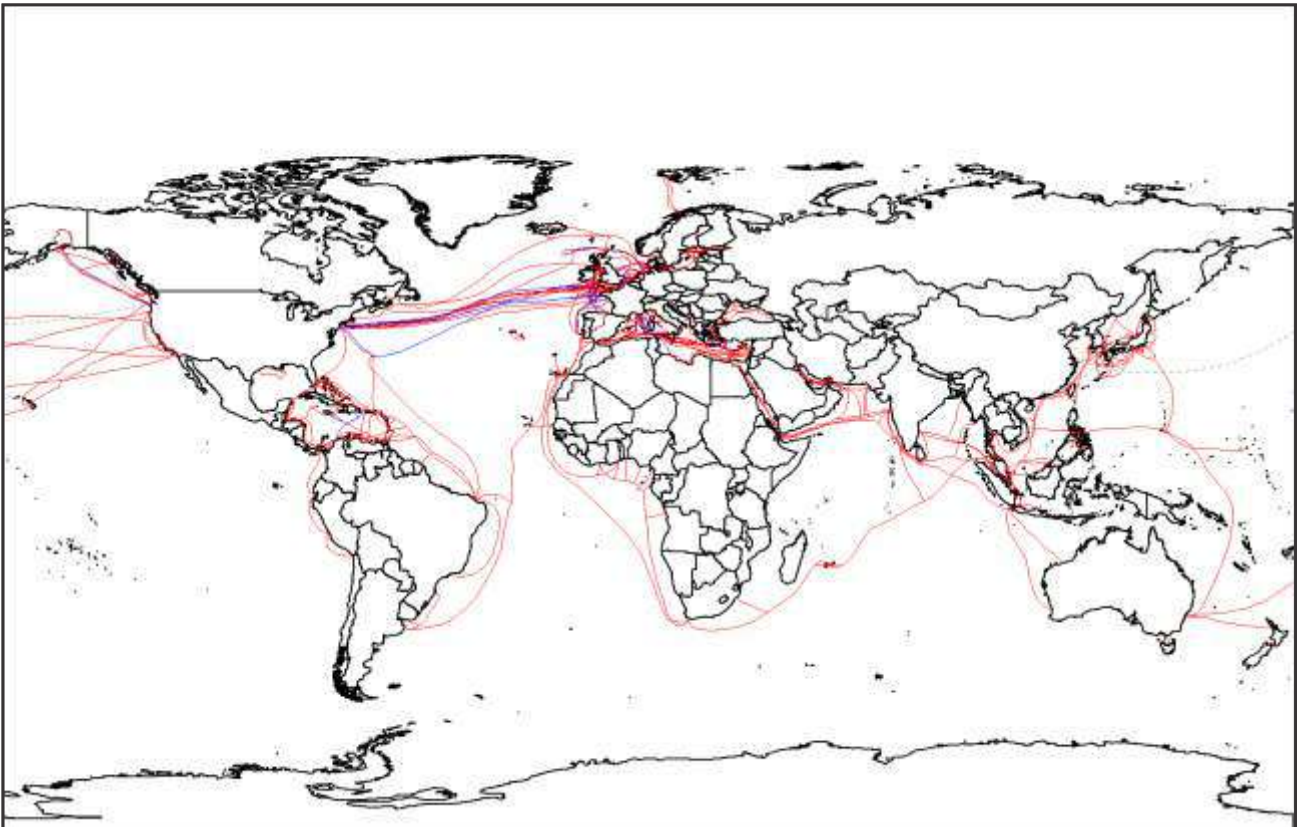
By 2012 transmission speeds improved rapidly and reached up to a whopping 100 Gbps across the Atlantic over a distance of 6000 km. **Today**

**speeds of several Tera bits/sec have been achieved.** The reliability of submarine cables is high, especially when (as noted above) multiple paths are available in the event of a cable break. Since satellite links can at best give about 1 Gbps, most internet communication (about 99 %) is by fiber optic Submarine cables. It should be noted that laying of submarine cables is expensive but over a period of time the advantages outweigh the high initial costs. Communications being vital the safety and security of submarine cables assume paramount importance. Today there are about 420 submarine cables in service stretching over 1.1 million km around the world. Though the cable network is clustered around economy hotspots like Singapore and New York almost every country including remote Pacific islands are connected. Mostly private telecom companies owned the cables but now content

providers like Google and Microsoft are also investors in new cables. Cloud computing is the big demand driver in this cable boom which will result in more cables crisscrossing the world's oceans in the future.

**Cable Landing Stations in India.** There are now 10 submarine cable landing stations in India, with four in Mumbai, three in Chennai, and one each in Kochi, Tuticorin and Digha,. These are owned by Tata Communications, Reliance Gopalcom,, Bharti Airtel, Sify Technologies and BSNL. BSNL owns its first international submarine cable connecting India and Sri Lanka and its cable landing station is in Tuticorin. The Digha Cable Landing Station in West Bengal is for a submarine cable project between India and South-East Asia.





**World map of submarine cables**

Rarelibra - Originally uploaded with the filename Submarine cables. png,

**What happens if the submarine cables are damaged ?** Here is an example stating the effects of damage to Submarine Cable:

On 30 January 2008, news agencies reported Internet services were widely disrupted in the Middle East and in the Indian subcontinent following damage to the SEA-ME-WE 4 and FLAG Telecom cables in the Mediterranean Sea. The damage to the two systems occurred separately several kilometers apart near Alexandria.

Effects: Disruptions of 70 percent in Egypt and 60 percent in India were reported, along with problems in Afghanistan-AWCC, Bahrain, Bangladesh, Kuwait, Maldives, Pakistan, Qatar,

Saudi Arabia and the United Arab Emirates which affected at least 60 million users in India, explaining how crucial the submarine cable networks are.

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*Cdr Mukund Yeolekar is Editor Seagull*



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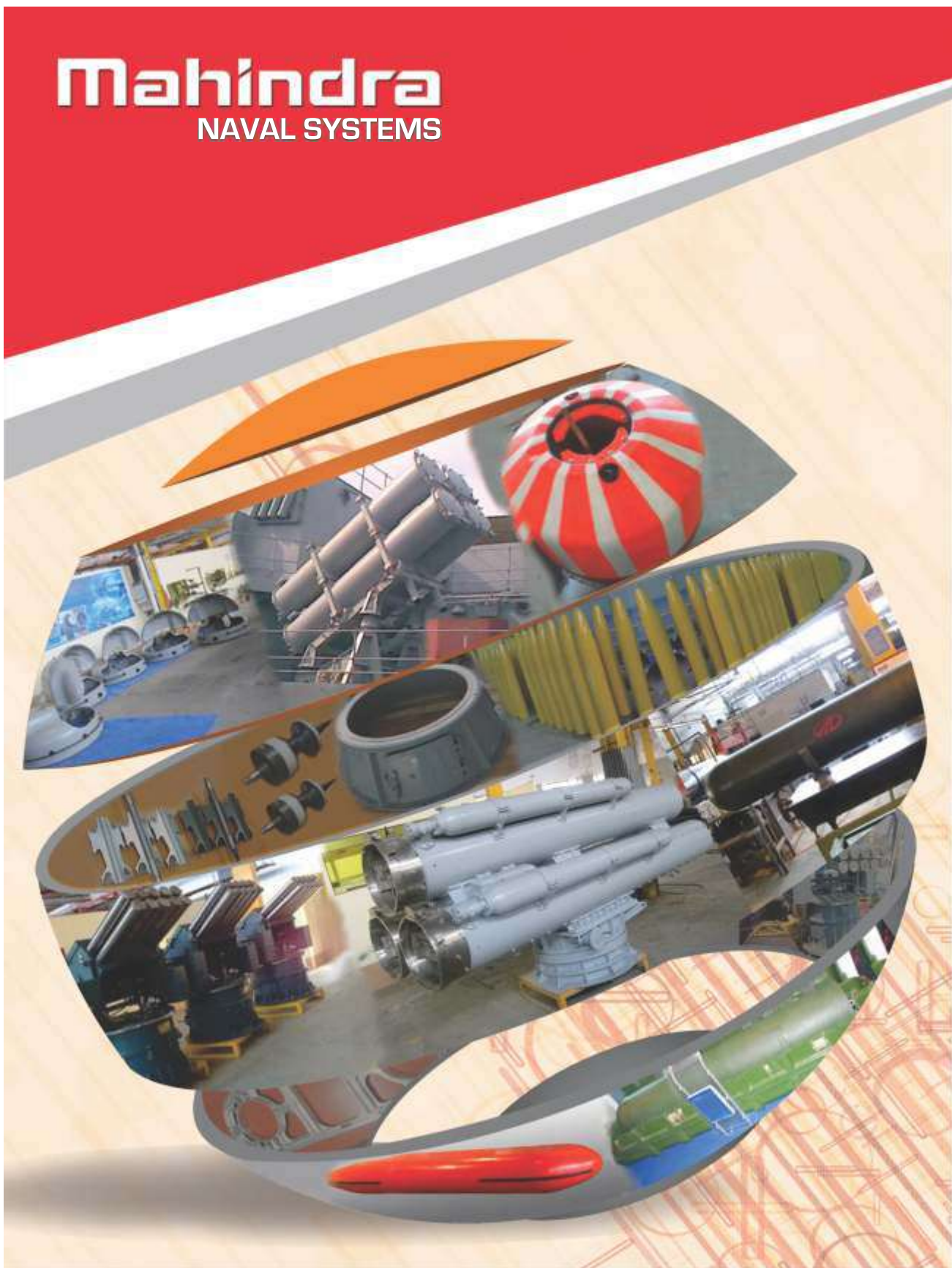
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## News From Janes

**Australia's second AWD accepted by Department of Defence.** London. 27 July 2018. The second of the Royal Australian Navy's (RAN's) three Hobart-class air warfare destroyers (AWDs) was officially handed over to the Australian Department of Defence (DoD) on 27 July.

Minister for Defence Industry Christopher Pyne, who attended the acceptance ceremony of NUSHIP *Brisbane* (with pennant number 41) at the Osborne Naval Shipyard in Adelaide, said in a statement that the 146.7 m-long ship, which was launched in December 2016, will enter service with the RAN later this year.

The vessel, which began builder's sea trials in November 2017, was handed over by the AWD Alliance, which comprises the DoD, Raytheon Australia, and ASC Shipbuilding, supported by Navantia Australia.

Australia's first AWD, HMAS *Hobart*, was accepted and commissioned into service in 2017, while the third ship, *Sydney*, was launched at Osborne in May and is set to be handed over to the RAN in December 2019 following sea trials.

“By using a combination of Australian and globally proven technologies, these highly capable warships will contribute directly to our maritime security and allow us to work even closer with our allies,” said Pyne.

**India aims to help Bangladesh design warships.** New Delhi - IHS Jane's Defence Weekly. 26 July 2018

Indian state-owned naval shipyard Garden Reach Shipbuilders & Engineers (GRSE) has signed a memorandum of understanding (MOU) to assist Bangladesh's Khulna Shipyard Limited (KSY) in designing and building warships, Indian Minister



Australia's Air Warfare Destroyer *Brisbane*

of State for Defence Subhash Bhamre told parliament on 25 July. The minister said that the state-owned KSY had “expressed keenness to develop skills and know-how for design and construction of ships”.

A senior GRSE executive told Jane's on 26 July that the MOU, which was signed on 8 May, followed several rounds of “detailed discussions” between representatives from the two shipyards accompanied by senior government, defence, and naval officials from both countries.

### **Russian Navy commissions Project 22350 frigate *Admiral Gorshkov*. St Petersburg -**

On 28 July the Russian Navy (VMF) commissioned the Project 22350 frigate *Admiral Gorshkov*, the day before its debut during the Naval Day parade. The ship is the first in class of new blue water frigates for the VMF, according to Vice Admiral Viktor Bursuk, deputy chief of naval armaments. “We will operate four *Gorshkov*-class surface combatants,” he said.

The *Admiral Gorshkov* has a full displacement of 5,400 tonnes, a length of 135 m, a beam of 16 m, and a draft of 4.5 m. Its armament suite comprises 16 3M55 Oniks anti-ship missiles (ASMs) or 3M54/3M14 Kalibr ASMs/land attack missiles, a 9K96 Poliment-Redut naval air defence system, an RPK-9 anti-submarine rocket launcher, two 3M89 Palash close-in weapon systems, and an A-192 130 mm naval gun. The frigate also carries a Ka-27PL anti-submarine helicopter. The *Admiral Gorshkov* is powered by a combined diesel and gas turbine engine, producing a maximum speed of 30 kt. The ship has a range of 4,500 n miles and an endurance of 30 days. It has a crew of 180-210. A military source told Jane's the *Admiral Gorshkov* has already been assigned to the Northern Fleet's 43rd Missile Ship Division.

**Sri Lanka Navy receives ex-US Coast Guard cutter.** 30 Aug 2018. The Sri Lanka Navy (SLN) received an ex-US Coast Guard (USCG) Hamilton-class cutter from the United States on 27 August. The high-endurance cutter (formerly

known as USCGC *Sherman* before being decommissioned in March) was handed over to the navy as a gift in a ceremony held in Honolulu, Hawaii. The ceremony was presided over by SLN commander Vice Admiral Sirimevan Ranasinghe and USCG Rear Admiral Michael Haycock.

In a 29 August statement, the US Embassy in Colombo said that the 155.2 m-long cutter, which is set to become the largest ship in the Sri Lanka fleet, will strengthen bilateral defence co-operation and increase interoperability between the navies of the two countries.

The vessel is expected to increase the South Asian country's ability to patrol its Exclusive Economic Zone, “providing additional security for ships from all nations that transit the busy sea lanes of the Indian Ocean”, according to the statement. It is also set to be deployed to provide maritime security and assistance for search-and-rescue operations.

### **China's second aircraft carrier, first Type 055 destroyer embark on sea trials. 28 Aug18.**

China's second aircraft carrier sailed from the Dalian Shipbuilding Industry Corporation (DSIC) shipyard on 26 August to embark on its second period of sea trials, just two days after the country's first locally built 10,000-tonne Type 055 destroyer began its initial sea trials, according to Chinese state media.

The main focus will be on testing the ship's propulsion and power systems, the newest set of trials will involve “heavier payloads and other system diagnostics including command, communication, and damage management”

**China quietly increasing warship numbers. 21 Sept 18.** Analysis of commercial satellite imagery indicates that the number of warships launched and commissioned in China in 2018 is significantly greater than has been officially confirmed.

Until recently, the launch of ships for the People's Liberation Army Navy (PLAN) has been accompanied by images posted on social media

sites by Chinese navy enthusiasts, and the commissioning of ships reported by state-owned news media.

However, in 2018 a number of warships appear to have been launched with very few photographs emerging online, and ships' commissioning have taken place without media coverage. This suggests that the Chinese authorities want to curtail awareness of the shipbuilding programme and are suppressing the circulation of images or creating an environment in which self-censorship is producing the same result.

**USS Decatur has 'unsafe' encounter with Chinese destroyer during South China Sea FONOP. 02 Oct 18.**

A US Navy destroyer has had an “unsafe” encounter with a Chinese warship during a freedom-of-navigation operation (FONOP) conducted on 30 September near the disputed Spratly Islands in the South China Sea (SCS). A People's Liberation Army Navy (PLAN) Luyang-class destroyer approached USS Decatur (DDG 73), an Arleigh Burke-class guided missile destroyer, at approximately 0830 h local time “in an unsafe and unprofessional manoeuvre in the vicinity of Gaven Reef”, US Pacific Fleet Deputy Spokesperson Commander Nate Christensen told Jane's in a written statement.

Cdr Christensen said that the Chinese vessel, which “conducted a series of increasingly aggressive manoeuvres accompanied by warnings for Decatur to depart the area”, approached “within 45 yards of Decatur's bow”, after which the US ship “manoeuvred to prevent a collision”.

In a separate statement China's Ministry of Foreign Affairs (MoFA) accused the USN vessel of having “sailed into waters close to China's Nansha [Spratly] Islands without permission from the Chinese government.

**Further details emerge of China's naval nuclear ambitions. 11 Sep 2018.** China's state-

owned media have furthered the notion that the country's aircraft carrier fleet will feature nuclear-powered support vessels.

“China's nuclear-powered aircraft carriers, which will definitely be built, will need nuclear-powered supply ships,” stated a 10 September report published by the China Military Online website. The report follows the display five days earlier of a design model of a nuclear-powered naval replenishment ship, which had first been shown by the 719 Research Institute of the China Shipbuilding Industry Corporation (CSIC) at an exhibition in Shanghai in December 2017.

The report, which pointed out that China's latest 40,000 tonne Type 901 supply ships have been designed to support conventional aircraft carriers, stated: “If China's next-generation supply ship is nuclear powered as expected, it will be the first of its kind in the world.”

**Pakistan receives decommissioned MCMV from Belgium. 09 Oct 2018.** Shipping company Peters & May Ltd has transported a decommissioned mine countermeasures vessel (MCMV) from Belgium to Pakistan.

The UK-based company announced on its website that the 540-tonne ship, along with three 40 ft containers containing additional parts, had been delivered to the South Asian country by mid-2018.

No further details about the identity of the ship were provided. However, Jane's understands the vessel in question is the ex- Aster (ex-M 915), a decommissioned Belgian navy Flower-class (Tripartite) MCMV.

It is unclear whether the ship will be operated by the Pakistan Navy (PN) or used for spares. Pakistan currently operates three similar Tripartite-class ships acquired from France, known as the Munsif (Eridan) class in PN service.

*Compiled by Cdr Mukund Yeolekar*

## Customising Customs Officers

By Shri TC Narayan

Those were bad days when bureaucracy and red tape prevailed in every aspect of commercial life. Exports and some imports were vital for our very existence but rules, some of them ancient and out-of-date, were enforced blindly impeding trade. Preventive Officers of the Customs Department (this was before Customs and Central Excise were merged) were posted on every ship that entered the port and voluminous documentation had to be done to declare dutiable items on board such as liquor, cigarettes, personal property such as radios, tape recorders and so on. Even the junior-most Preventive Officer wielded the power to hurt and a number of them did make life difficult for the crew.

A British India Steam Navigation Co. ship, for which Madura Co. was local agent, was in Cochin while on its Persian Gulf (now Arabian Gulf) to Far East run. As soon as the ship docked the Preventive Officer boarded it and insisted on the declaration of dutiable items being recorded and submitted immediately. The Chief Steward responsible for this task was busy planning and ordering the lunch for the officers but the Customs Officer, a new recruit with his shining single gold stripe, demanded that the declaration be given priority. In hastily preparing the declaration the Chief Steward happened to miss a zero in the number of cigarettes declared and 5000 was recorded as 500 which was discovered in the physical verification. The Customs Officer took serious notice of this and was totally carried away by his new found power. He accused the Chief Steward of deliberate mis-declaration and threatened to issue a notice to the Master. The Master, a genial Scot. named John Daly, was a veteran in his job and he tried to explain the mistake to the Customs Officer who refused to relent. He quoted the provisions of the Sea Customs Act under which he was empowered to take action against the Master and the ship.

The Chief Steward was in a panic as he would also be penalised by the Company and he went in tears to the Master. John Daly reassured him and ordered him to stop the practice of providing Customs Officers on duty on board with lunch, dinner and refreshments. The Chief Steward was horrified as he feared this would make matters worse. Captain Daly was firm in his resolve and within hours all hell broke loose. The Customs Officer who had threatened penal action and his colleagues who were on duty in subsequent shifts discovered that they would not be eating on board in the officers' saloon but would have to cook their food for which all facilities and raw material were provided.

I was summoned by the Chief Inspector who was head of the Preventive Department and asked to see that the practice of feeding the officers be restored.. I interceded with Captain Daly on behalf of the Customs but he was adamant. He maintained that the Preventive Officer had invoked the provisions of the Indian Sea Customs Act and he, the Master, was doing the same. He said he was under no obligation under the Act to feed the Customs Officers but was only required to provide 'victuals, fuel and cooking facilities' which he would gladly do. He then showed me relevant parts of the Act which was legislated decades ago in totally different circumstances. So back I went to the Chief Inspector and conveyed the Master's message to him. The Chief Inspector then asked for a meeting with Daly who was at his friendly best. The Chief Inspector was convinced in no time at all that they did not have a case. Very soon, a much chastened Preventive Officer was on board with instructions to undo the damage that he had done. All was soon well again and the Customs Officers were again made welcome in the officers' saloon.

## The Ghosts of Cochin Port

Those were the early years of the marine exports boom. The demand for frozen shrimp in Europe and USA and for frozen frog legs in Europe was growing and many plants were set up by those who wished to hitch a ride in this bandwagon. Cochin Company, Southern Fisheries, Indo Marine are only a few that come to mind but there were many others who entered this profitable trade. The Central Government was very supportive thanks to their desperate need to bolster their precarious foreign exchange position.

Shipping lines naturally became involved in this new and growing business as carriers and American President Lines built up a large share of the market for itself. The import standards of quality stipulated by the US government were stringent and the trade had to adhere to very strict temperature control right through processing to transport to ship's side and then loading. In order to protect themselves from liability in case of damage to cargo at the destination the shipping lines also introduced inspection procedures on the wharf. The shippers of this cargo were given specific times for loading and shipside arrangements were made by us shipping agents to load without delay. Random checks were made on the cargo to ensure that temperature of the cargo was around minus 28 degrees C and cartons at higher temperatures were rejected.

It was during this period that I found my bride and for weeks thereafter she had to deal with mysterious phone messages from the cargo supervisor in my absence. In fact it took her a long time to be convinced that I was in the shipping business as the messages she got ran somewhat like this “ Please tell Mr. Narayan that Mr. Cherian's shrimp has high temperature” or “ Please inform Mr. Narayan that Mr. Aziz has not come to the wharf yet with his frog legs”!

The Cochin port always had a militant labour

union called Cochin Thuramugha Thozhilali Union or Cochin Port Employees' Union led for years by M.K.Raghavan, who was competing with Dhara Singh who led the Congress affiliated INTUC Union. They were in the habit of making demands for higher wages or other benefits and striking work or going slow if the demands were not met promptly. The port administration was usually headed by a senior IAS officer who was caught between the Central government to which he and the port were accountable and the State government on which he depended for infrastructure and help if a law and order situation developed from labour trouble.. A Communist-led government was in power in Kerala State and this did not help maintain a stable labour situation. Exports were being promoted by the Central government which desperately needed foreign exchange and any break in the export trade was viewed with disfavour by the Centre.

Cashews, spices and frozen marine cargo were the main exports from Cochin and of these the labour union decided to target the very sensitive and vulnerable frozen marine cargo such as frozen shrimp and frog legs which were high in value and also easily damaged by delays in loading. The labour ploy was to lift the cargo in rope slings using dockside cranes or ships' derricks and, when they were hanging over the decks, to stop work and demand extra wages for non-existent labour or lump sums of money. These payments soon came to be known as ‘ghost money as it was paid to non-existent or ‘ghost’ labour. The shippers naturally went into a panic and much pleading and negotiation would begin. Both we as ships' agents and the shippers were thus held to ransom and one of us had to agree to pay in order to protect our different but equally critical interests. The trade, naturally, were the first to concede as their stakes were higher and with the port authorities dithering over this, this practice threatened to continue in bigger and bigger proportions. There were occasions when frozen cargo was turned back when we found the labour unwilling to listen to their leaders.

The Export Promotion Council set up by the Central government took up the matter with the Centre by which time the Shipping Subcommittee of Cochin Chamber of Commerce had already begun to deliberate on this problem. I was Chairman of this sub-committee in addition to which I represented the Chamber on the Cochin Dock Labour Board and the overseas shipping interests on the Consultative Committee of the Transport Ministry in New Delhi. Representations were made to the Chairman of the Port Trust but strong action was not forthcoming. The Dock Labour Board took up the matter and a few acrimonious meetings were the only result. M.K.Raghavan and Dhara Singh were reasonable individuals with whom a free discussion was possible but their political rivalry was such that neither wished to be seen to give up the demands, illegal as they were.

Very soon I was summoned to a meeting of the Consultative Committee and the 'ghost money' issue figured at the top of the agenda. The Committee was chaired by the Secretary of the Ministry – at that time S. Chakravarti ICS who was earlier my father's deputy in the government of the composite Madras Presidency. – but the discussions were initiated by the Joint Secretary, in this case Dr. Nagendra Singh. Dr. Singh was a brilliant officer who was a legal expert and eventually, by a strange twist of destiny, rose to the lofty position of Chief Justice of the International Court of Justice at The Hague. The Chairman of the Cochin Port was also present at the meeting and his friendly relations with me came under strain after I made a very scathing report on the inaction of the port authorities. As the temperature climbed it was decided that Dr. Singh would have a separate meeting with the Port Trust Chairman and me to resolve the problem. This meeting went slightly better and it was decided that the port would be put on notice by the Ministry and this could be used as a lever in the next round of discussions with the labour unions.

On my return to Cochin the Chairman of the Port

summoned the union leaders and warned that the Centre had threatened to take serious action against the unions if they continued their illegal practice. The State government also was addressed by the Ministry. An official of the Ministry was dispatched to Cochin to watch the dockside operations and with the pressure from the trade and the Centre mounting the Unions had to back down.

There was peace for a long time after that but I do understand that the Unions did make attempts from time to time to revive the ghosts of Cochin Port.

*Shri TC Narayan is former MD of P & O Shipping Co. ( India)*

## SAILTOONS

by Michael Malzone



## Russian Nuclear Torpedo - *Poseidon*

Russia's dreaded nuclear torpedo, designed to nuke entire coastal cities into oblivion and trigger tsunamis, has been sighted in tests at sea. Once thought a hoax, internet researchers have tracked development of the system all the way back to 2008. The weapon was recently named "Poseidon" after the Russian military polled the public for a new name. The weapon, formerly known as "Status-6" and KANYON, was recently renamed Poseidon. Poseidon beat out two other names, Aurora and Skif, in a naming contest held by the Russian Ministry of Defense. Unfortunately The Worst Weapon Ever was not part of the contest, but it should have won handily.

Poseidon, documented by submarine researcher HI Sutton and author of **World Submarines: Covert Shores Recognition Guide**, is the largest torpedo ever developed. Sixty five feet long and 6.5 feet wide, the nuclear-powered torpedo is designed to cross entire oceans before detonating a thermonuclear warhead against an enemy coastal target such as city or naval base. The weapon is carried by special submarine and there are proposals for launching them from capsules tied to the seabed, waiting to be unleashed.

Early reports claimed Poseidon had a 100 megaton thermonuclear warhead. This warhead was twice as large as Tsar Bomba, the largest bomb ever dropped. Enough to destroy entire coastal cities and cause further devastation inland by triggering artificial tsunamis, laden with radioactive fallout. To make matters even worse, the warhead was reported to be "salted," laced with radioactive isotopes that would make contaminated regions dangerous and

uninhabitable for years.

Sutton scales back Poseidon's warhead to "just" 2 megatons, but that would still be sufficient to destroy major metropolitan areas and trigger waves contaminated with radioactivity. Russia is also touting the torpedo as capable of attacking enemy fleets. While the warhead is certainly large enough to destroy an entire U.S. carrier battle group, there is some question how the Russian weapon would actually locate a moving enemy fleet.

Sutton also notes that development of the weapon can be traced back to 2008, when the Russian Navy took delivery of a unique submarine, Sarov, that will test and ultimately carry the gigantic torpedo.

According to the Covert Shores website, Poseidon is now estimated to be capable of speeds up to 70 knots, up from 56 knots, which translates to 80 miles an hour on land. This is faster than U.S. nuclear powered attack submarines and their anti-ship homing torpedoes, limiting a defender's options against an incoming Poseidon missile. The weapon also operates at depths of up to 3,280 feet, far deeper than U.S. Navy submarines.

Poseidon is believed to be a second-strike weapon, ensuring that any country that stages a surprise nuclear attack on Russia is devastated in return. The weapon is designed to circumvent U.S. ballistic missile defenses meant to shoot down incoming missiles by taking an underwater route.

Source: Covert Shores.

*Courtesy: Popular Mechanics*

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