

NAVY NEWS


ISSUE 01 2016


**PROTECTING OUR
EVERYDAY**

A PATROL VESSEL'S CREW

READY, SET, FIRE!

HOW TO ENSURE A SUCCESSFUL
MISSILE FIRING

 [singaporenavy](#)

 [singaporenavy](#)

TAKING THE PLUNGE

From soldiers to sailors and beyond

NAVY NEWS CONTENTS

ISSUE 01 2016

Advisor

RADM Timothy Lo

Chief Editor

LTC Neo Su Yin

Editor

Yvette Kan

Editorial Coordinator

LCP Harry Sin

Photojournalists

CPL S Mitra

PTE Jonathan Khoo

REC Benjamin Wong

Contributing Members

Jessica Teo

Sara Shamini

LTC Terence Tan

LTC Gary Ow

MAJ Allan Seah

CPT Adrian Teo

ME5 Nagara

ME4 Conrad Fung



COVER PAGE

Photo by
LCP Harry Sin



The mission of the RSN is to enhance Singapore's peace and security through deterrence and diplomacy, and should these fail, to secure a swift and decisive victory over the aggressor at sea. The RSN will ensure Singapore's seaward defence, secure our sea lines of communication, and maintain a high level of operational readiness and a broad spectrum of capabilities to support our national interest.

NAVY NEWS is a publication of the Republic of Singapore Navy. The views expressed by its writers do not necessarily reflect the official views of the Navy or the Ministry of Defence. NAVY NEWS is not to be reproduced in whole or in parts without the written consent of the RSN. For enquiries and comments, please call 6768 3367 or email us at navynews@defence.gov.sg or Navy News, NIC, NOD (OA email).

NAVY NEWS CONTENTS

ISSUE 01 2016

03 CNV's Foreword

04 Quickrep

10 Now Hear This

- The waters we defend: An in-depth look into Singapore's waters
- Protecting our everyday: How the crew keeps a patrol vessel running smoothly

16 Onwards and Upwards

- From soldiers to sailors and beyond: Naval Military Experts Institute turns trainees into capable RSN sailors
- The making of a RSN sailor: How our training systems smoothen the transition from classroom to ship

24 Photo Story

- Ready, set, fire!: A behind-the-scenes look into the recent Barak missile firing exercise in the South China Sea
- Saving lives out at sea: Updating the skills of our NSmen medics and doctors

32 Know Your Navy Family

- Donating blood: Why you should donate blood

36 Learning Journey

- iDARE to innovate: A learning journey to Hope Technik



PUNCHING ABOVE OUR WEIGHT



Over Singapore's Golden Jubilee weekend last year, the Navy was out in force. At the Padang, our Navy veterans marched with gusto, our Guard-of-Honour contingent looked magnificent in white and some of our assets were also featured in the mobile column. Our ships were also deployed to safeguard Singapore's maritime security, especially with the heightened terrorism threat.

Since late 2014, when Al-Qaeda's glossy magazine first highlighted Singapore as a target for terrorists, MSTF and our other national maritime agencies had quietly stepped up vigilance and enhanced security measures. Beyond maritime terrorism, MSTF had also worked closely with our foreign partners to counter piracy in our region, bringing down the piracy incidents to zero since last November.

In 2015, we hosted IMDEX Asia 2015, Asia Pacific's largest maritime defence exhibition, which was attended by 30 Navy Chiefs and Vice Chiefs with 16 foreign warships participating. The Fleet conducted the inaugural Exercise Maritime Cooperation with the PLA Navy, an important milestone in our bilateral defence ties with China. With the US Navy, our annual CARAT exercise featured a combined torpedo firing as well as the inaugural participation of UAVs. And with the Indonesian Navy, the RSN co-hosted the Western-Pacific Mine-counter Measure Exercise with 16 navies participating.

Through the course of the year, we were also able to entrench our position as a regional thought-leader. We mooted a framework for submarine operational safety, which is critical given the growing number of submarines

in the region. We are pushing for the Code for Unplanned Encounters at Sea (CUES) to cover underwater navigation and despite the sensitive nature of submarine operations, this idea has gained traction.

2015 was also SAF50 and NALCOM helped to launch the SAF50 campaign at Vivo, attracting 87,000 visitors, while Fleet organised SAF50@Istana for 21,000 SAF servicemen and women, NSmen, and their families. And in our outreach to the community, 191 SQN supported the Wheels@Ubin project and helped bring 100 wheelchair users to visit Pulau Ubin.

Finally, to cap off the work year, we hosted President Tony Tan Keng Yam to Changi Naval Base where we updated him on our frigates and submarines, two projects that President had



a leading hand in as Defence Minister. It was a great honour for RSS *Steadfast* and RSS *Swordsman* to host President.

In a significant year, the RSN was able to punch above our weight. This is only possible because of the character, professionalism and commitment of our servicemen and women. The strength of our everyday lies in our people faithfully carrying out our daily tasks and duties. And I am immensely proud of what our people have achieved over the past year. Bravo Zulu to all!

FORGING AHEAD TO RSN50 IN 2017

Singapore is a maritime nation in a maritime region. The sea is Singapore's lifeline and link to the world. But our region has become more contested, with overlapping maritime and territorial claims in the South China Sea. The nature of conflict is also changing. Our potential adversary could employ hybrid threats to disrupt maritime trade transiting through our SLOCs.

These sea changes in our operating environment demand a decisive response. To this end, the RSN will be redesigned to provide Singapore with a range of maritime options across

the operational spectrum. The operations we undertake, the way we are structured and the processes we adopt will change quite fundamentally. And we have to start making these shifts now, even as full implementation takes the better part of the next 5 - 10 years.

In doing so, we will build on the strong foundations of the 3G RSN transformation. We have made good progress in developing our new platforms and we remain on schedule with the upgrade programmes for our existing capabilities. Indeed, we must continue to deliver mission success, to do so safely, and by using our allocated resources prudently.

As we cast our eyes forward, we will need all hands on deck to catch the winds of change. We all have to roll up our sleeves and do this heavy lifting together. But beyond hard work, it will take "heart" work. We must believe in what we are attempting for the Navy and what we are building for the future.

Next year, we celebrate the Navy's Golden Jubilee – RSN50 – and we have much to celebrate! On Navy Day on 5 May 2017, we will be commissioning RSS *Independence*, our first

LMV. In conjunction with IMDEX Asia 2017, we will host Singapore's first International Maritime Review and rename Changi Naval Base as RSS *Singapura*; RSS *Singapura* was the Navy's Headquarters when we first raised our Ensign on 5 May 1967. Thereafter, we will wrap up our celebrations with Singaporeans with a Navy Open House.

On our Navy's Golden Jubilee year, we celebrate not just the achievements of our Navy pioneers, but also their pioneering and dare-to-do spirit – the Navy Spirit. Starting with only two wooden boats, they built a Navy that we are proud of. It was their fighting spirit and tenacity that forged the Navy in its early days, and it is this same spirit that must carry us as we look to the future. We are the pioneers of our generation.

Many of you would have visited the "Future of Us" Exhibition. As you left the exhibition, you might have seen this quote from our founding Prime Minister, the late Mr Lee Kuan Yew: "We intend to see that Singapore will be here a thousand years from now. And that is your duty and mine." Clearly, the organisers wanted these words from to be etched deep into the hearts and minds of all Singaporeans as we embark on SG100.

The RSN is a maritime force for our maritime nation. Being a maritime nation is Singapore's historical fate as well as a geographical reality. Being a maritime nation is also Singapore's future. And it is our duty as a maritime force to see that Singapore will be here a thousand years from now.

QUICK REP

SAFSA Air Weapons Championship 2015/2016

Team Navy came in 3rd at the 47th SAFSA Inter-Formation Air Weapons Championship amongst nine other SAF Formations on 8 Jan. This was an improvement from 4th position last year.

7th MINDEF System Safety Seminar (MSSS)

The Naval Logistics Command organised the 7th MSSS was held at Temasek Club on 18 Jan. The annual seminar serves as a platform for personnel to share their knowledge on system safety. Deputy Secretary (Technology) Mr David Koh was the Guest-of-Honour.



74th MIDS Commissioning Parade

66 midshipmen from the 74th Midshipman batch were commissioned at the SAFTI Military Institute (SAFTI MI) on 17 Jan. President Dr Tony Tan Keng Yam reviewed the parade, which concluded their 38 weeks of training at the Officer Cadet School. 2LT Tan Juan He received the Sword of Honour.



RSN Leadership Mess Dinner

The RSN Leadership Mess Dinner was held on 20 Jan at Temasek Club. Young naval officers, military experts and junior DXOs were introduced to the age-old tradition of holding a formal military ceremony to build *esprit de corps* within our Navy family.

SAFSA Swim Meet Final 2015/2016

Team Navy emerged champions at the 47th SAFSA Swim Meet Final on 27 Jan with 444 points. Republic of Singapore Air Force and Combat Service Support Command came in second and third respectively.



CDF Visit to Fleet

Chief of Defence Force MG Perry Lim visited Fleet during a Fleet exercise out in the South China Sea on 29 Jan. Hosted by Fleet Commander RADM Lew Chuen Hong, he observed a demonstration of the integrated operations between the naval helicopters and the frigate on board RSS *Tenacious*, and was briefed on the missile corvette's air surveillance capabilities on board RSS *Vigour*.

CDF NE Excellence Award Presentation

RSS *Supreme* was awarded the CDF NE Excellence Award at a presentation held at the Joint Staff Committee meeting room on 1 Feb. The award is given to the top unit of each service for demonstrating a strong commitment in their National Education efforts.



Basic Specialisation Course Batch 1/15 Graduation

114 students graduated from the Basic Specialisation Course Batch 1/15 on 1 Feb. Over a 28-week course, students underwent training in three phases – the Naval Foundation Module, System Operator Module and On-Job Training. The course was conducted at Naval Military Expert Institute.



74th MIDS/ 11th MDEC 1 ACPC

The 74th MIDS/ 11th MDEC 1 Appointment Certificate Presentation Ceremony (ACPC) was held on 2 Feb at Naval Military Expert Institute. ME4A Siah Hanxiang Alvin was the top graduate of the 11th MDEC 1.

PS(D) Visit to MTDC

Permanent Secretary (Defence) Chan Yeng Kit visited Maritime Training and Doctrine Command (MTDC) on 2 Feb. Hosted by Commander MTDC COL Gerald Heng and other senior officers, he observed the various training simulators and facilities at MTDC.



GKS CSC Opening Ceremony

The GKS CSC Opening Ceremony was held at the Officer Cadet School Auditorium, SAFTI Military Institute (SAFTI MI) on 3 Feb. Chief of Defence Force MG Perry Lim was the Guest-of-Honour.



SMS Mr Ong's Visit to MSTF

On 15 Feb, Senior Minister of State Ong Ye Kung, visited Maritime Security Task Force. During his visit, he witnessed how our Navy operates on a daily basis to defend our waters and commemorated Total Defence Day with our sailors on board RSS *Fearless*.

SAFSA Track & Field Meet 2015/2015

Team Navy clinched the 2nd position amongst nine other SAF formations in the SAFSA Inter-Formation Track & Field Meet on 24 Feb. This was a marked improvement from the 9th position last year.

SAFSA IFC 2015/2016

Team Navy emerged 2nd overall in SAFSA Inter Formation championship (IFC) for the WY15/16 after a year-long competition amongst 11 SAF formations.



President's Visit to Changi Naval Base

President Dr Tony Tan Kem Yang visited the RSN on 2 Mar. Hosted by Chief of Navy RADM Lai Chung Han, he visited frigate RSS *Steadfast* and submarine RSS *Swordsman*, and was briefed on the vessels' capabilities and how they contribute towards the SAF's ability to protect Singapore's waters and its sea lines of communication.



SAF NSMen Appreciation Dinner

The annual SAF NSMen Appreciation Dinner was held on 12 Mar. The dinner is held to pay tribute to the significant and invaluable contributions of SAF NS key appointment holders, reservists on the voluntary extended scheme and volunteers who have relinquished their appointments.



OBS(C) Send-Off Ceremony

At the send-off ceremony for Operations BLUE SAPPHIRE (Command) on 11 Mar, 50 servicemen and women were presented with the insignia bearing the Singapore flag by Chief of Defence Force MG Perry Lim. Led by Commander 1st Flotilla COL Ken Cheong, the team would be deployed to take charge of counter – piracy operations under the multinational Combined Task Force for three months.

Minister Visit to Fleet Missile Firing Exercise

Minister for Defence Dr Ng Eng Hen visited a Fleet exercise conducted in the South China Sea on 22 Mar. During the visit, Dr Ng witnessed the successful live firing of a Barak missile from missile corvette RSS *Vigour*.



Commander Combined Task Force 151 COC in Bahrain

Commander 1st Flotilla RADM Ken Cheong took command of the multinational CTF 151 in a Change-of-Command Ceremony in Bahrain on 31 Mar. The ceremony was witnessed by Chief of Navy RADM Lai Chung Han.

WHERE WE'VE BEEN



Exercise Eagle Indopura

From 29 Feb to 4 Mar, the RSN conducted a bilateral exercise with the Indonesian Navy. The exercise aims to enhance the interoperability and professionalism of both navies. This year's exercise involved frigate RSS *Tenacious* and patrol vessel RSS *Gallant*. The RSN also deployed naval divers for the exercise. The success of Ex *Eagle Indopura* underscored the close and long-standing defence relationship between Singapore and Indonesia.

Exercise Malapura

The RSN participated in Exercise *Malapura*, a bilateral exercise with the Royal Malaysian Navy that took place from 22 Feb to 4 Mar. Frigate RSS *Supreme*, missile corvette RSS *Victory*, patrol vessel RSS *Freedom* and a Sikorsky S-70B Seahawk naval helicopter took part in the exercise. Both navies carried out joint planning and training, as well as drills in conventional naval warfare and maritime security in the Malacca Strait.



MARSEC Exercise

A maritime security (MARSEC) exercise was conducted off Pedra Branca on 23 Feb involving our Navy, Army and the Police Coast Guard. The exercise simulated a group of intruders on fast boats attempting an attack on Pedra Branca. Our Navy's patrol vessel RSS *Sovereignty* and a Police Coast Guard's coastal patrol craft took part in the exercise. The exercise concluded successfully, testifying to the operational readiness of our Navy, Army and Police Coast Guard.



Midshipman Ship Training Deployment 1/16

Midshipmen from the 75th MIDS/12th MDEC 1 set off on 13 Feb for their Midshipman Sea Training Deployment on board landing ship tank RSS *Endurance*. This six-week course is a rite of passage for young naval officer cadets. A few aspects of training include understudying the bridge watch team and learning how to fight fires on board. They called at the ports of Kota Kinabalu in Malaysia, Busan in South Korea, and Cam Ranh Bay in Vietnam. They returned on 26 Feb.



Courtesy calls on CNV

Indonesia

First Admiral Muhammad Ali Se, MM
Commander Sea Security Group West Fleet

Rear Admiral Achmad Taufiqorrochman
Commander Western Fleet

Malaysia

Vice Admiral Dato' Mohamad Roslan Bin
Mohamad Ramli
Fleet Commander

Thailand

Admiral Na Arreenich
Commander-in-Chief

THE WATERS WE DEFEND

Story by Benjamin Wong
Photo courtesy of DMC

Our sailors protect our waters 24/7. *Navy News* takes an in-depth look into Singapore's waters to show our readers how difficult the job can be.

Having a collaborative space in the IFC makes it easier and faster for the RSN and her foreign counterparts to share information and work together to combat maritime threats.



Our maritime nation

Singapore is a maritime nation bounded by the sea on all sides. Together with the main island, we have over 60 islands, the farthest being Pedra Branca in the east.

Our geographic location in the maritime region of Southeast Asia means that we are strategically placed at the confluence of the east and the west. For more than a thousand years, ancient travellers, traders and explorers had traversed the Singapore Strait on their voyage to the South China Sea.

Today, Singapore continues to serve as a critical link between Asia and the western countries. Besides being a gateway for western countries to many major growth economies in Asia, we are also well located along regional maritime trade routes. According to IE Singapore, 30% of all Asian trading is conducted through our ports.



Singapore's waters are highly congested with at least 1,000 ships passing through our ports at any one time.

Our maritime challenges

These congested and busy waters pose many unique challenges to the men and women of the Navy. Our people have to contend with the congested waters of the narrow Singapore and Malacca Straits as well as navigate across an irregular seabed with potentially dangerous features such as rocky outcrops and shoals.

The porous nature of Singapore's maritime boundaries also means that it is important for us to work closely with our neighbours to combat threats. We do this through joint exercises and platforms like the Information Fusion Centre (IFC), a regional maritime security information-sharing centre.

The challenges we face show how the work of the RSN is closely tied to the daily lives of Singaporeans. It is, hence, crucial for our Navy to be ready at all times to defend our maritime nation.

Our maritime trade

Singapore's maritime industry is an important contributor to our economy. Singapore is recognised as one of the world's leading centres for shipping, maritime services, offshore and marine engineering activities, which contribute to about 7% of Singapore's GDP, according to the Maritime and Port Authority of Singapore.

Singapore is one of the world's busiest ports. Every two to three minutes, a ship arrives or leaves Singapore, traversing through the Singapore Strait.

With such a high volume of traffic through the straits, any interruption in shipping would heavily impact our economy. Examples of threats include armed sea robberies and maritime hijackings and kidnappings.

PROTECTING OUR EVERYDAY

Story by Yvette Kan
Photos by Jonathan Khoo

Our Fearless-class patrol vessels (PVs) operate 24/7 to keep Singapore safe and it takes every man and woman in the crew to keep everything shipshape. *Navy News* finds out more about the different vocations that keep a PV running smoothly.

At any moment in time, a patrol vessel (PV) and her crew of 30 is out at sea, guarding Singapore's waters. As part of Singapore's frontline seaward defence, they keep a keen eye out for any threats to our maritime nation.

The PVs play a critical part in ensuring Singapore's maritime security, which is overseen and coordinated by the Maritime Security Task Force (MSTF).

Based in Changi Naval Base, MSTF works closely with other national maritime agencies such as the Police Coast Guard. With a comprehensive, real-time view of Singapore's maritime situation, MSTF plans and executes maritime security operations. This includes the deployment of PVs for patrolling of our waters.

Communication system specialist CFC Fabian Fung performing a check on the handset on the bridge to ensure the communication system is working well.



Keeping a PV's communications up and running

Our PVs are operationally ready and prepared to be deployed 24/7. During sailing, they remain in constant contact with shore units.

As a communication system specialist, CFC Fabian Fung is in charge of ensuring that messages from the shore reach the ship out at sea. Together with a supervisor and one other communication system specialist on board RSS *Fearless*, he receives messages via the radio systems in the combat information centre and conveys them to the ship's officers.

He also has to ensure that the communication headsets and handsets are in working order so that communication lines can flow smoothly and information can be transmitted without a hitch. This is especially important when the PV has to coordinate, for example, with the Accompanying Sea Security Teams on maritime security operations.

Part of his work also involves manual forms of communication, such as using signal flags.

When CFC Fung completes his national service in September, he says that "[he] will miss the times here." He adds: "Not many [full-time national servicemen] get to go on board ships to learn, [so] it's very valuable to be here."

Charting a PV's route

For navigation system supervisor ME2 Lim Wee Keong, he finds great value in doing his part to protect Singapore's waters. "Every time we sail out, we are protecting Singapore [and] protecting our families."

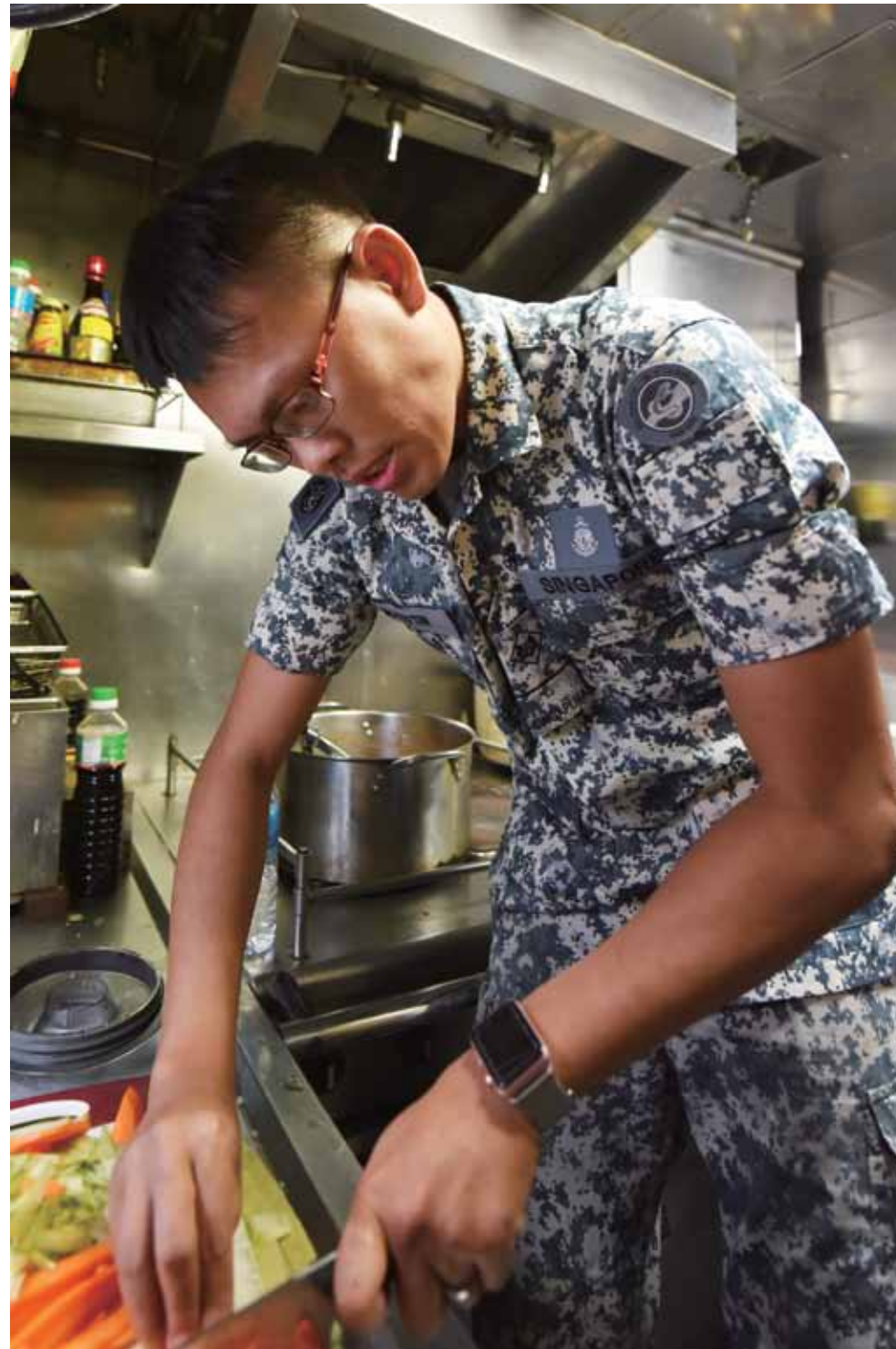
In his role, he provides assistance to the Navigation Officer when the ship is out sailing. This involves planning the ship's passage as well as operating the navigation radar. His responsibilities also include keeping a lookout on the surrounding waters and reporting any risk of collision to the Officer-of-the-Watch.

As a supervisor, ME2 Lim, who has been in the RSN for seven years, is in charge of a team of seven on board RSS *Fearless*. Besides taking care of their welfare, he also welcomes his men to approach him if they have any problems. "We are just like family here, [because] we see each other every day," he explains.

"[Work] isn't tough, just challenging. It's challenging because we have to be vigilant. I want [us] to sail out safely and come back safely so I can see my family," he says. Protecting his country and family, after all, is the reason why he strives to do his job well.



ME2 Lim Wee Keong, a navigation system supervisor on RSS *Fearless*, uses the gyro compass to check on the bearing of landmarks and ships.



Chef ME1 Tan Siong Swee has to battle rough sea states while preparing meals for the rest of the crew.

Feeding a PV's morale

Ensuring that the PV's crew is able to perform their duties well is at the core of what chef ME1 Tan Siong Swee does. "What I do is not much," he says, "but [I help to] boost the ship's morale and energy so that they can keep Singapore safe."

As a PV has only one chef on board, he bears the sole responsibility for preparing the ship's four daily meals, including a light snack at night. He also has to plan out the menu and supplies to be ordered every week.

The toughest part of his job is when the PV encounters rough sea states, he says. Once, he had to prepare the meals while the ship was being tossed by waves that reached swell heights of 1m. This can be dangerous as he has to maintain his balance while using knives and handling hot pots and pans.

However, ME1 Tan says he intends on continuing to serve. "I love cooking and I like sailing on board a PV ... [we are] protecting Singapore every day."

FROM SOLDIERS TO SAILORS AND BEYOND

Story by Yvette Kan

Photos by Benjamin Wong & Jonathan Khoo

When our RSN trainees enter Naval Military Experts Institute (NMI), they come to us as soldiers. At the end of their training, they leave as capable RSN sailors. Read on to find out more about their training from the eyes of three trainees.

As the instructor rattles off the command, SCT Jeevan S/O Dhoraraj scrambles to respond. Five weeks into vocation training, he handles the general purpose machine gun (GPMG) in front of him with relative confidence.

“I think [the test] went quite smoothly,” he says. “But training is getting harder.”

As a weapon systems (WS) trainee, he will have to know how to operate, maintain and repair the abovementioned GPMG, CIS 50 machine gun and OTO Melara gun. Hence, there is a test every week to ensure that SCT Dhoraraj and the other trainees are proficient and capable when they eventually go on to serve on board ships.



Learning how to use and repair the CIS 50 machine gun is part of the weapon systems operators' training.



SCT Jeevan S/O Dhoraraj (left) assembling the general purpose machine gun.

SCT Dhoraraj and his peers are currently undergoing the Basic Specialisation Course (BSC) in Naval Military Experts Institute (NMI). In a cohort of 184, there are 43 military experts (MEs) and 141 full-time national servicemen (NSFs). Out of these NSFs, there are 70 specialist cadet trainees (SCTs) – they are the first batch of SCTs to pass through NMI – and 71 privates (PTEs), who will be promoted to lance-corporal after completing the course.

The ME1(T)s, SCTs and PTEs are assigned into the various vocations, namely WS, navigation systems (NVS), weapon systems control (WSC), communication systems (communications), command and control systems, underwater systems, electrical control systems, and marine systems.



Trainees learning how to create makeshift floats from their uniforms.

Learning the basics

Before the trainees were assigned to their specific vocations, they received a crash course on the Navy and what it means to be part of the RSN. The naval foundational phase of BSC in January was like “Basic Military Training for the brain”, says SCT Dhoraraj.

The trainees not only have to grapple with naval jargon, such as “heads” and “dogwatch”, they have to pick up core skills such as swimming and ropework as well. Their seamanship

training also includes lectures such as lessons on learning how to identify the different classes of ships and key maritime landmarks in Singapore’s waters.

For trainees like SCT Bryan Ng, the foundational training was a challenge. The trainees had to learn how to jump safely from the three-metre diving board, which prepares them for emergencies on board ships when they might have to jump into the sea from similar heights. “I couldn’t jump the first time,” admits SCT Ng, who has a fear of heights.



SCT Bryan Ng having a pep talk from an instructor before attempting the jump. Knowing how to jump safely is one of the core skills a sailor needs.

He only managed it during the second lesson. “The second time ... with the encouragement from my boatmates and superiors, I could.”

As SCT Dhoraraj describes it, when training gets tough, “it is not a fight you fight alone”. For example, ropework was an aspect of training he struggled with as he couldn’t figure out the different knots. He eventually managed to master it with the help of his fellow trainees.

Picking up interesting skills such as ropework is one of the reasons why ME1(T) Samuel Ho chose to sign on with the Navy after he completed his Basic Military Training. He says: “I joined the Navy because I thought [it] will be challenging ... I was learning a lot of new things [during the first phase of BSC].”

SCT Bryan Ng (centre) learning how to operate the radar system in the Radar and Navigation Simulation System, a training system that teaches trainees how to use the computer-based systems on board

Becoming specialists

The trainees have since moved onto the next phase of their training, which started in February: domain training, which will equip them with the skills they need for serving on board. Their training at NMI, which includes on-job-training on ships, will end in July.

Training is now more focused on their specific vocation. Their theory lessons take place in classrooms that utilise the LEARNet Portal 2.0, the Singapore Armed Forces' next generation internet-based learning platform. Their training also involves hands-on practical lessons on the systems they will be using through the use of simulation and emulation platforms.

"The use of [these platforms] optimises both training proficiency and the use of training resources," explains course commander ME4 Eric Lim.

An example of the interactive learning platforms used is the Radar and Navigation Simulation System, which has a mock-up of the different navigational systems. *(For more on learning platforms, turn to page 22.)*

Through this system, NVS trainee SCT Ng and his peers are learning how to read charts and radars as well as how to track and plot the ship's movement. "These are interesting skills I won't be able to learn anywhere else. I'm looking forward to applying the skills I'm going to learn."



For ME1(T) Ho, who has been assigned to WSC, he is enjoying learning about the different weapons systems he will be handling, such surface-to-air missiles and the gun fire control system. "I have a passion for weapons ... [so domain training] is very interesting to me."

Upon graduating in May, the trainees are looking forward to

sailing with the RSN in the future. They will be serving on board the various platforms from patrol vessels to landing ships tank. "It will be quite an adventure," SCT Dhoraraj says.

ME1(T) Ho, who will be sailing on board a landing ship tank, agrees. "The push [to sign on] was the challenging work ... and the travelling [with the Navy]."

Being part of the Navy family

Another topic that the trainees agree on is the strong family spirit here in the RSN. "I like the Navy. It's suitable for me ... [and] it's very family-oriented," ME1(T) Ho says.

SCT Dhoraraj jokingly describes being assigned to the RSN as "being struck by lightning while being eaten by a shark at the same time". For someone who didn't expect to be placed here, he has come to fully embrace being part of the RSN.

He explains: "There is truth in the whole family spirit thing in the Navy that people keep talking about. [Being in the Navy] is like going to work with your friends."



ME1(T) Samuel Ho using the Mistral Surface-to-Air Simulation Trainer

FROM SOLDIERS TO SAILORS AND BEYOND:

THE MAKING OF A RSN SAILOR

Story by Benjamin Wong

Photos by Benjamin Wong & Yvette Kan

Transitioning from the classroom to the ship may be tough for those new to the Navy. These training systems are a few used to assist them through this passage of change.

In the Damage Control Trainer, the trainees have to work together to complete their tasks.

STET *Polaris*

To help new sailors earn their sea legs, trainees will spend a day on board STET *Polaris*, a training ship aimed at honing their foundational skills and to familiarise them with sailing.

The trainees will spend a day sailing in the Singapore Strait, learning basic seamanship skills such as landmark and ship recognition. They also have the chance to try their hand at taking the helm and to be a lookout. Instructors will also simulate a man-overboard situation for the trainees to practice sea boat rescue.

An aspect of the training, which might seem minor, is the seasickness trainees might experience. When they are posted on board ships, they will have to battle much rougher sea states while carrying out their work. Hence, it's important to acclimatise them to battling seasickness so that they are prepared for the eventuality.



On board STET Polaris, a trainee taking control of the helm under the guidance of an instructor.



Damage Control Trainer

Commonly referred to as Ba Ba Black Ship, this trainer is a mock-up of various locations on board a ship. As the name of the trainer suggests, the skills being honed here are damage limitation and containment. This is important to ensure survivability at sea so that when crisis breaks out on board, the sailors are prepared to deal with them.

From the control centre, instructors will set up different emergencies that teams of six to seven trainees will have to respond to. For example, it might be a flood from a hull breach, burst water or oil pipes, or a fire on board. While experienced sailors can complete their tasks in 20 minutes, these trainees might take up to 40 minutes for successful completion of task.

Platform Systems Emulation Centre (PSEC)

At this emulation centre, marine system and electrical & controls systems trainees learn how to operate marine systems in a mock-up of shipboard environment. This gives them a chance to familiarise themselves with using the equipment in such surroundings so they are confident enough to handle them on board ships. Having such training platform eases the demand for training support when they are on board.

The PSEC can be configured to emulate the systems on board a landing ship tank, frigate or patrol vessel. It can also be used to simulate defects, testing the trainees' ability to work together to resolve them. Training their teamwork skills is particularly important as they will have to work closely together on board ships.



In the PSEC, the instructor (foreground) can control the scenarios the trainees have to respond to.

READY, SET, FIRE!

*Photos and text by Harry Sin
Additional photos courtesy of DMC*

Much hard work goes into any successful missile firing. *Navy News* takes a look at the behind-the-scenes work that went into the recent Barak missile firing conducted by RSS *Vigour* in the South China Sea.

1 The Weapon Systems Branch from the Naval Logistics Department works together with engineers from ST Engineering to conduct systems checks of the weapon systems. These engineers are under the Integrated Work Force attached to the Naval Logistics Command. They play a critical role in ensuring that the gun on board missile corvette (MCV) RSS *Vigour* is calibrated properly to ensure the accuracy of the missile fired.

2 The Weapon Systems Branch tests the sensitivity and accuracy of the weapon systems. Such tests ensure that our weapon systems are always ready to go and that the Barak missiles will be on target.



3 Weighing approximately 250kg, the missile is lifted with a crane and handled with extreme care. To emphasise the importance of safety, the announcement "No smoking and no engine ignition" is played across the ship to remind the engineers to keep heat sources away from the missile.



4 The missile is loaded into the missile silo carefully – ready for when RSS *Vigour* sailed out to the South China Sea for the missile firing exercise, which took place on 22 Mar.



5 Out in the South China Sea, RSS *Vigour* conducted a missile test firing successfully by hitting the intended target.

6 “It was deeply satisfying to see the system work like clockwork. It detected and tracked the target and launched the Barak missile to hit spot-on. It gives us confidence that all our investments into sophisticated systems will be able to defend Singapore, when we need to,” said Defence Minister, Dr Ng Eng Heng.

SAVING LIVES OUT AT SEA

Story by Jonathan Khoo
Photos by Harry Sin

With the RSN constantly upgrading itself, it is important for all servicemen and women, including our operationally ready national servicemen (NSmen), to be trained in our latest systems.

1 For their latest in-camp training (ICT), operationally ready national servicemen (NSmen) from Naval Medical Services were trained in using the Rapidly Deployable Maritime Container (RDMC) on board RSS *Endeavour*, a landing ship tank (LST). This is the first time NSmen were trained to use the RDMC. The RDMC enhances the medical service capabilities of a LST, bridging the gap between the traditional medical services found on board a combat warship and the more extensive medical capabilities of a navy ship hospital.



2 The NSmen are divided into different sections: surgical, intensive care unit, general ward, triage, dental, and radiology. The ICT helps them maintain their medical relevance and section component training on board the ship's medical centre. In the training scenario shown, doctors and medics from the triage section (donned in orange and yellow vests respectively) assessed the injuries of the "casualties" brought on board. By looking at the casualty cards, which state the type and severity of injury suffered, medics will then transfer the patient to the appropriate sections for treatment.

3 Medics from the triage section transferring the casualty to the care of either the ward section or surgical section medics in the RDMC for further treatment. Operational Ready National Servicemen (NSmen) medics and doctors are guided by regular Medical Officers, who ensure that NSmen understand how the RDMC integrates into the medical treatment workflow process.





4 Hands-on experience with the RDMC has given our NSmen the opportunity to practice smooth transferring of casualties from the triage point to the operating theatre in the RDMC. In the case of an actual emergency, medics need to work together with the ship's organic crew to ensure rapid transfer of casualties to the various sections for treatment.

5 Medics from the surgical section performing lifesaving surgeries in the RDMC. There are two types of RDMCs available: one with an operating theatre and intensive care unit, and the other with an additional ward section for those with non-life-threatening injuries.



6 Non-life-threatening injuries and casualties whose conditions have stabilised will either be transferred to the RDMC ward section or the LST's medical centre. The ward section contains basic medical necessities to tend to the wounded. These include neck braces and oxygen masks.

7 Allowing NSmen to have hands-on experience with the RDMC enables them to refresh their skills and familiarise themselves with the use of the RDMC. This ensures that in the event of emergencies, our NSmen are able to use the RSN's most updated capabilities to serve Singapore in defending our nation.



DONATING BLOOD: SAVING LIVES AS ONE NAVY FAMILY

Story by S Mitra

Photos by S Mitra and Jonathan Khoo

Our servicemen share the reasons why they donate, and why you should too.

Starting at the age of 16, CFC Benjamin Ang has been donating blood regularly for over half a decade. He cannot recall the number of times he has donated blood, but puts the figure somewhere in the double digits.

“I was inspired [to start] by my father, who is also a regular blood donor. He impressed on me the importance of blood donation, and how little it actually requires of the donor,” he says.

While on a job-shadowing stint at the National University Hospital, CFC Ang met several patients with leukaemia in dire need of blood transfusions. This strengthened his belief in the purpose of donating blood and reinforced his confidence in his choice to donate blood regularly.

Similarly, 3SG Isaac The believes in the crucial need to donate blood. He understands better than most as he has interned at a blood bank before.

He explains: “The blood isn’t used right away. A lot of work needs to be done after blood

ME1 Melvin Koh undergoing whole blood donation.



3SG Isaac The undergoing apheresis donation. The machine extracts plasma, platelets or red cells from the blood and returns the remaining blood to the donor's body.

donation to ensure that the blood donated is compatible with the patient. Blood also needs to be stored for future use so that it is available on hand for emergency cases – this can often mean the difference between life and death for the patient.”

MAJ (Dr) James Kwek, Head of the Medical and Doctrine Training Branch, further elaborates: “In a case of trauma resuscitation, it is not uncommon for eight to ten bags of blood to be used for a single patient in surgery. Without regular blood donors, hospitals will simply not be able to support patients adequately.”

Hence, donating blood would be a way for servicemen and women to contribute to the Total Defence of Singapore by ensuring the stability of Singapore’s blood supply. According to Red Cross Singapore, only one unit of blood is required to save three lives.

The donation process

There are two types of blood donation one can participate in: whole blood donation and apheresis donation.

The former involves withdrawing 350ml to 450ml of blood and typically takes 5 to 10 minutes. This can be done once every 12 weeks.

In apheresis donation, machines called blood cell separators are used to extract plasma, platelets or red cells from the blood and the remaining blood is returned to the donor’s body. This process takes longer – from 60 to 90 minutes – but can be done once every four weeks. The platelets obtained are used to treat patients with leukaemia, cancer and dengue fever.

Donors can go for either whole blood or apheresis donation, depending on which is more suitable for the individual. For example, regular donor ME1 Melvin Koh started out with apheresis donation, but has since changed to whole blood donation.



At a recent blood donation drive held at Naval Diving Unit on 11 Mar, the drive saw many first-time donors.

“I used to go for apheresis donation, but my veins were no longer prominent and unsuitable for apheresis donation, so I’ve switched to whole blood donation. Either way, whenever I’m eligible, I will go donate,” says ME1 Koh.

He adds: “There’s really nothing to worry about for blood donation, even for SAF personnel.”

According to the Health Science Authority, donors can return to performing strenuous or athletic activities 24 hours after donation, so servicemen and women can safely return to sailing soon after donating. Apart from the minor potential issues such as bruising from the needle, the procedure is safe and sterile, and streamlined for the donor’s convenience.



Before donating blood, potential donors will have their blood haemoglobin level checked to ensure that they can make a donation.

“ Either way, wherever I’m eligible, I will donate.”

– ME1 Melvin Koh

“Spending a mere 20 minutes [for whole blood donation] of our time doing something that could save up to three other people’s lives is a good way to spend that time. I believe that it is our moral obligation to help others to the best of our abilities,” CFC Ang says.

MAJ (Dr) Kwek sums up the importance of blood donation succinctly: “It saves lives.”

To find out about donating blood, head over to giveblood.sg.

Whole blood donation will only take 5 to 10 minutes.

iDARE TO INNOVATE

Story and photos by Harry Sin

On 20 Jan, members of the RSN family embarked on a learning journey to discover more about innovation.



42 participants visited Hope Technik on the iDARE STEELwerkz Learning Journey, where they saw how the company innovated to solve problems.

“We do not reinvent the wheel; we adapt and modify proven solutions to give reliable results.” These words are emblazoned on the front lobby wall of engineering company Hope Technik. One of Hope Technik’s “Ten Commandments”, this edict encapsulates the company’s view towards innovation.

To catch a glimpse of how the company fosters this spirit of innovation, 42 members of

the RSN family visited Hope Technik’s grounds for the first iDARE event of 2016 on 20 Jan.

The event, named the iDARE STEELwerkz Learning Journey, was an eye-opening experience for the participants. “This visit to Hope Technik allows the different formations in the RSN to understand how innovation could enhance work productivity,” said ME6 Tan Teck Ling, Dy Chairman RSN iLEARN Committee.



The “Ten Commandments” of Hope Technik guide the company’s work process and put innovation at its core.

Besides observing projects such as the Singapore Civil Defence Force’s Red Rhino vehicle, the participants saw firsthand the methods Hope Technik uses to create original solutions. For example, in the open-concept office, there is a wall where print-outs of the project’s conceptual designs are pasted up. By making it easier for discussion between the designers and engineers, this encourages employees to collaborate and innovate.

This spirit of striving for innovative ways of improvement is what the RSN is hoping to encourage through the iDARE movement. The “DARE” portion refers to empowering the ground to think about how current practices can be improved. This involves the RSN at all levels in striving further for our maritime force.

“We at the RSN iLEARN committee hope that this visit will provide a boost to these PRIDE activities and continue to nurture a culture of innovation in the Navy,” ME6 Tan said.

Participant ME5 Andy Tan from Naval Logistics Department agreed. “[The learning journey] was definitely insightful to me and I hope to share some of the culture and values to Operational Logistics Group and the aspiration to continue to innovate.”



Having a wall of print-outs of designs and ideas makes it easier for designers and the engineers to work closely together on projects.

“ The learning journey was definitely insightful to me. ”

– ME5 Andy Tan

