



भारत 2023 INDIA

वसुधैव कुटुम्बकम्

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सत्यमेव जयते

MINISTRY OF DEFENCE
Government of India

75
आज़ादी का
अमृत महोत्सव



ANNUAL REPORT **2022-23**



MINISTRY OF DEFENCE

ANNUAL REPORT

2022-23

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DEPARTMENTS AND ORGANISATIONS OF MINISTRY OF DEFENCE

Ministry of Defence

After Independence, Ministry of Defence was created under the charge of a Cabinet Minister and each Service was placed under its own Commander-in-Chief. In 1955, the Commanders-in-Chief were renamed as the Chief of the Army Staff, the Chief of the Naval Staff and the Chief of the Air Staff. In November 1962, the Department of Defence Production was set up to deal with research, development and production of defence equipment.

In November, 1965, the Department of Defence Supplies was created for planning and execution of schemes for import substitution of defence requirements. These two Departments were later merged to form the Department of Defence Production and Supplies. In 2004, Department of Defence Production and Supplies was renamed as Department of Defence Production.

In 1980, the Department of Defence Research and Development was created. In 2004, the Department of Ex-Servicemen Welfare was setup. In 2019, a new department namely Department of Military Affairs was created with the aim to facilitate optimal utilization of resources and to promote jointness among the three services.

Defence Minister of India or Raksha Mantri is the head of Ministry of Defence, Government of India, which maintains India's defence and internal security. The defence minister additionally serves as President of the Institute for Defence Studies and Analysis, and as Chancellor of the Defence Institute of Advanced Technology and National Defence University. Raksha Mantri is assisted by a Minister of State for Defence (Raksha Rajya Mantri). The Defence Secretary functions as head of the Department of Defence and is additionally responsible for coordinating the activities of the five Departments in the Ministry.

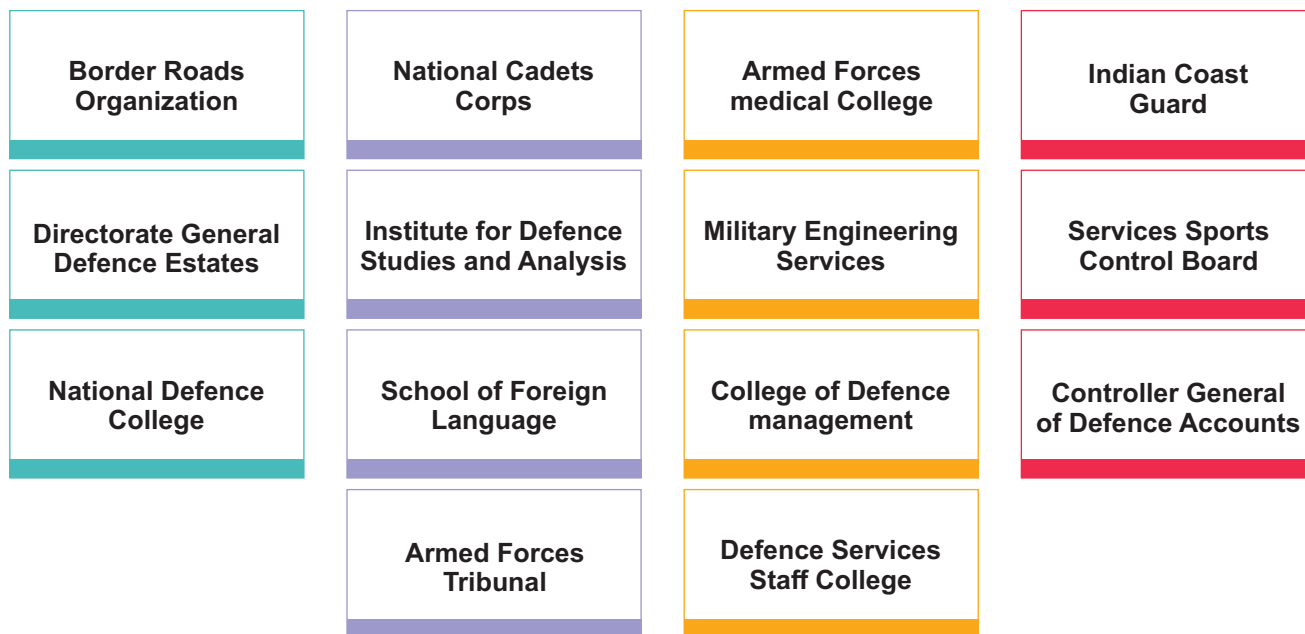
Departments Of Ministry



Departments of Ministry

- (i) The **Department of Defence (DOD)** headed by the Defence Secretary deals with Defence Budget, establishment matters, defence policy, matters relating to Parliament, defence co-operation with foreign countries and co-ordination of all defence related activities.

Department of Defence



Organizations of Department of Defence

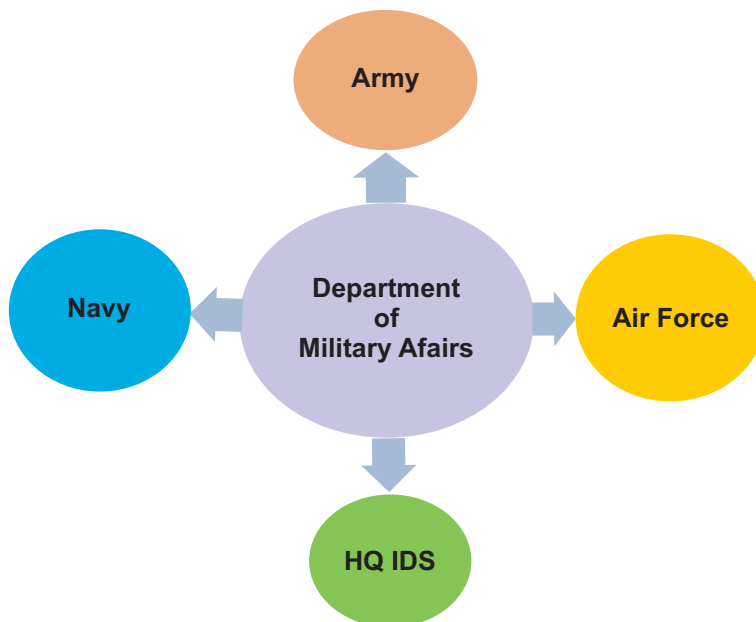
- (ii) **Department of Defence Production** is headed by a Secretary and this department is involved in developing a comprehensive production infrastructure to provide the weapons/systems/platforms/equipments required by defence. Over the years, the department has established wide ranging production facilities for various defence equipments through DPSUs and also facilitated private industry.

Department of Defence Production

<u>DPSUs</u>	<u>Other Organizations</u>
<ul style="list-style-type: none"> Hindustan Aeronautics Limited (HAL) Bharat Electronics Limited (BEL) Bharat Earth Movers Limited (BEML) Bharat Dynamics Limited (BDL) Garden Reach Shipbuilders & Engineers Limited (GRSE) Goa Shipyard Limited (GSL) Hindustan Shipyard Limited (HSL) Mazagon Dock Shipbuilders Limited (MDL) Mishra Dhatu Nigam Limited (MIDHANI) Munitions India Limited (MIL) Armoured Vehicles Nigam Limited (AVNL) Advanced Weapons & Equipment India Limited (AWEIL) Troop Comforts Limited (TCL) Yantra India Limited (YIL) India Optel Limited (IOL) Gliders India Limited (GIL) 	<ul style="list-style-type: none"> Directorate General of Quality Assurance (DGQA) Directorate General of Aeronautical Quality Assurance (DGAQA) Directorate of Standardisation (DOS) Directorate of Planning & Coordination (Dte. of P&C) Defence Exhibition Organisation (DEO), and Directorate of Ordnance (Coordination & Services)

Organizations of Department of Defence Production

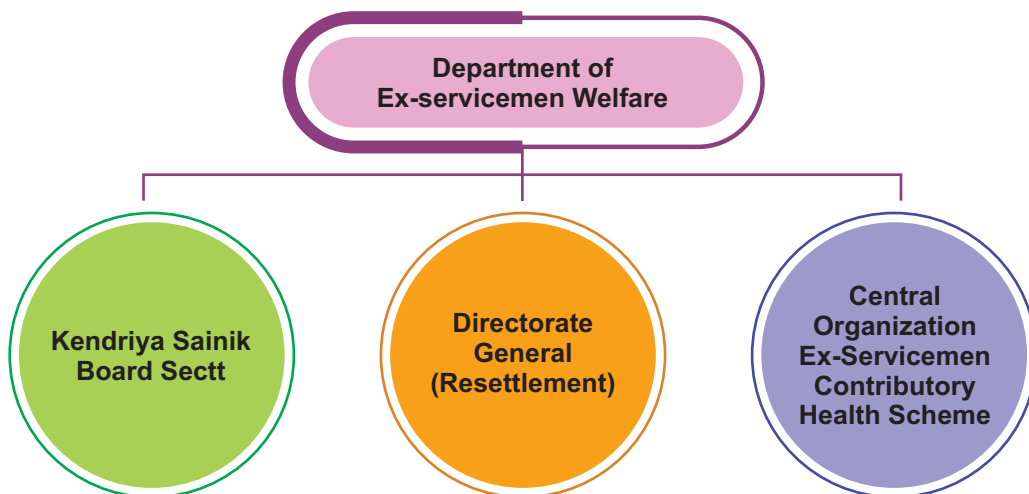
- (iv) **The Department of Military Affairs (DMA)** headed by the Chief of Defence Staff as its Secretary deals with the promotion of jointness in procurement, training and staffing for the services. Facilitation of restructuring of Military commands for optimal utilization of resources and promotion of use of indigenous equipment is also the mandate of this department



- (iv) **The Department of Defence Research and Development (DRDO)** is headed by a Secretary (DD R&D) & Chairman, DRDO and is responsible for all research, design and development of equipment required by the Services.

DRDO consists of 60 Laboratories/Units

- (v) **The Department of Ex-Servicemen Welfare (DESW)** is headed by a Secretary and deals with all resettlement, welfare and pensionary matters of Ex-Servicemen.



Organizations of Department of Ex-Servicemen Welfare

Department of Defence



रक्षा मंत्रालय
MINISTRY OF
DEFENCE

सत्यमेव जयते

NATIONAL CELEBRATIONS

The ceremonial functions organized during 2022-2023 are detailed in the following paragraphs:-

A. INDEPENDENCE DAY CEREMONY-2022

- The celebration of the Independence Day began with singing of patriotic songs by the NCC Cadets at the Red Fort. The three Services and Delhi Police presented the Guard of Honour to the Prime Minister. Thereafter, the Prime Minister unfurled the National Flag on the Rampart of the Red Fort to the accompaniment of the National Anthem played by the Services Band. Twenty one Gun Salute was presented on the occasion. For 21 Gun Salute during the Independence Day Flag Hoisting Ceremony-2022 at Red Fort, indigenously developed Advanced Towed Artillery Gun System was used along with the traditional gun system. This gun system has been designed and developed by DRDO.



PM unfurling the Tricolour flag at the ramparts of Red Fort, on the occasion of 76th Independence Day, in Delhi on August 15, 2022

- After the Prime Minister's address to the nation, the ceremony concluded with the singing of National Anthem by NCC cadets followed by release of balloons.



- On the eve of Independence Day 2022, the following Gallantry Awards were announced:

	Kirti Chakra	Shaurya Chakra	Sena Medal (G) (including bar to Sena Medal)	Nao Sena Medal (G)	Vayu Sena Medal (G)
Total awards (including posthumous cases)	03	13	83	01	07
Posthumous cases	02	02	05	--	--

Following new components were included during the IDC – 2022:- .

YOUTH EXCHANGE PROGRAMME (YEP)

- Special Youth Exchange Programme (YEP) was organised by NCC during 09-17 August, 2022 wherein around 127 Cadets/Youths from 14 different countries viz. Mauritius, Argentina, Seychelles, UAE, Mozambique, Fiji, USA, UK, Indonesia, Maldives, Nigeria, Kyrgyz Republic, Brazil and Uzbekistan were invited to witness the Independence Day Flag Hoisting Ceremony-2022 at Red Fort. A separate seating enclosure was made for these cadets in Madhav Das Park, below the Rampart of the Red Fort.

RED FORT WALL THEMATIC DECORATION

- Giant mural was installed at the front wall of the Rampart of the Red Fort to enhance the beauty of the monument of Red Fort during Independence Day.
- Large wall hangings of prominent freedom fighters from various States/UTs of India were installed at the front wall of the Red Fort.
- The details of freedom fighters with their photographs, State/UT (to which they belong), a prominent monument/place/symbol related to their State/UT were depicted of these wall hangings.



OTHER DECORATIONS

- Container Art was installed behind the NCC cadets at Gyanpath.
- Five elephant figures were installed at the Lahori Gate and moat area of the Red Fort to enhance the thematic beauty of the Red Fort during IDC-2022.
- Different installations were set up at various locations to act as selfie points for the spectators.
- The Meena Bazaar area inside the Red Fort was decorated with scroll paintings.
- National Flag was installed on the street light poles around 1 km periphery of the Red Fort and on the PM's route for the Independence Day Flag Hoisting Ceremony, 2022.

B. DEFENCE INVESTITURE CEREMONY

The Defence Investiture Ceremony, 2022 was organised at Rashtrapati Bhawan in two phases i.e. first on 10.05.2022 and second on 31.05.2022 respectively in association with President's Secretariat.



C. VIJAY DIWAS

Vijay Diwas was celebrated on 16 December, 2022. On this occasion, Hon'ble Raksha Mantri laid wreath at National War Memorial at India Gate.



Vijay Parv, 50 glorious years of 1971 war, Swarnim Vijay Varsh under Azadi ka Amrit Mahotsav

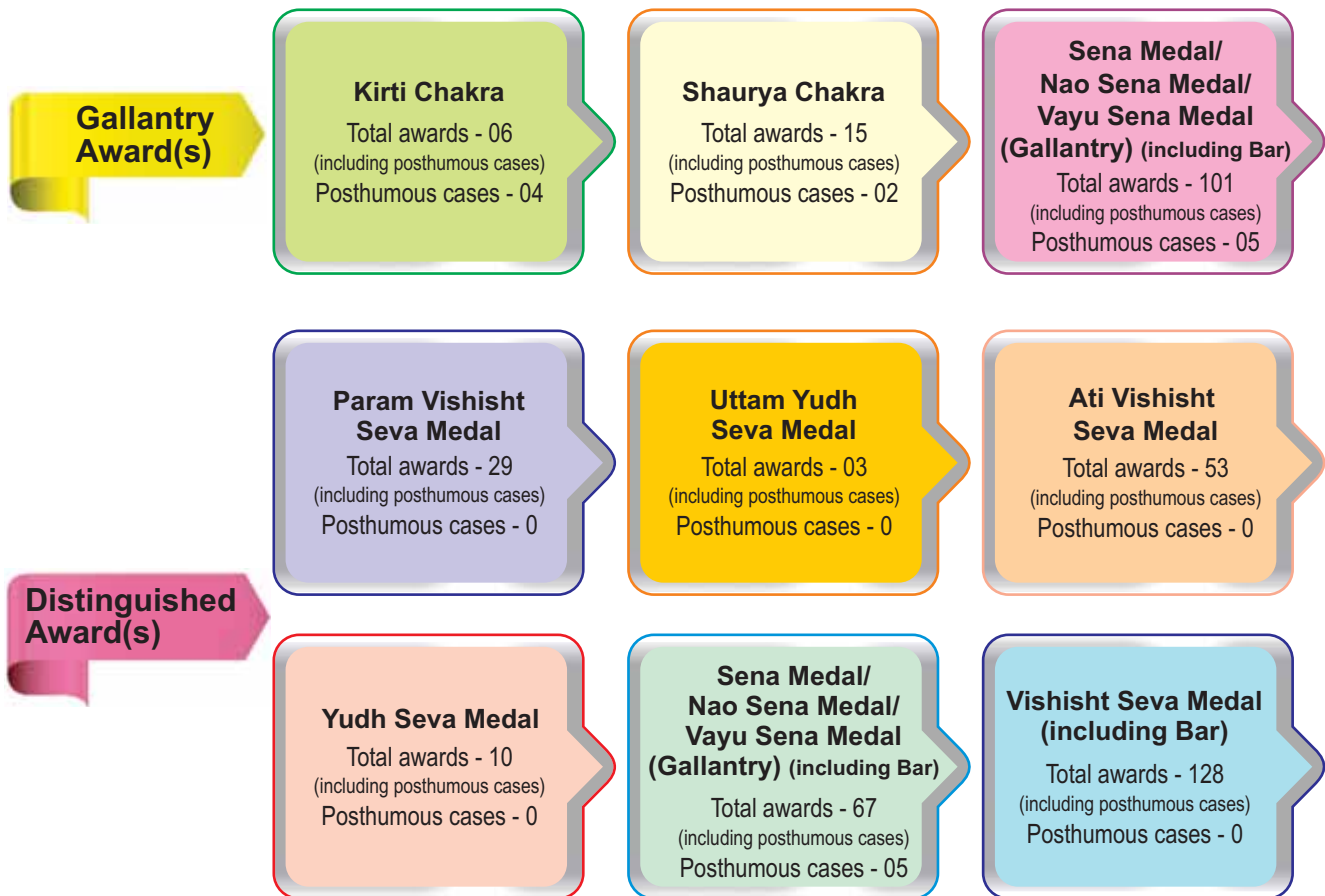
D. REPUBLIC DAY PARADE, 2023

- The Prime Minister laid wreath at National War Memorial in the morning of 26th January, 2023. Two minutes silence was observed for paying homage to those who laid down their lives in safeguarding the integrity of our nation.
- H.E. Mr. Abdel Fattah Al Sisi, President of the Arab Republic of Egypt, was the Chief Guest on 26.01.2023. The marching contingent along with Band of the country of the Chief Guest also participated in Republic Day Parade, 2023
- The Republic Day Parade commenced with showering of flower petals by Four Helicopters carrying the National Flag and the Services Flags. The parade was led by GOC Delhi area and included the following components:-
 - Marching Contingent alongwith Band from Egypt (the country of Chief Guest)
 - Mounted Cavalry Column
 - Mechanised Column
 - Marching contingents & bands of the three services, Central Armed Police Forces, Delhi Police, NCC, NSS etc.
 - Pradhan Mantri Rashtriya Bal Purashkar winners
 - 01 Tableau and 01 Equipment of DRDO, 23 tableaux from various States/UTs and Central Ministries/Departments.
 - Cultural performances by the artists selected through “Vande Bharatam 2.0” dance competition.
 - Motor Cycle display, Fly past and release of rubber balloons.



Daredevil stunts undertaken by trained professionals at Republic Day Celebrations 2023

The following gallantry and distinguished service awards were announced on the Republic Day 2023:-



E. ADDITIONAL/NEW ACTIVITIES UNDERTAKEN DURING RDC-2023:-

(i) The following categories of special invitees were invited to witness the RDC-2023:-

S.N.	Category	Number
Republic Day Parade		
1.	School Band Competition Finalist (8 teams)	125
2.	Vegetable Vendors, Milk Booth Workers, Small Grocery Shopkeepers, Rickshaw Pullers	500
3.	Shramyogi of Central Vista and New Parliament Building, Maintenance Workers of Kartavya Path	522
4.	Divyangjans	100
5.	Veer Gatha Winners	75 (25 Children+ 25 Parents + 25 Officials)
6.	Egyptian Delegation	48
7.	Japan Delegation	04 + 05 Indian Officers
8.	Tribal Guests	approx.120

S.N.	Category	Number
9.	Participants of Young Global Police Leaders Program (YGPLP) & INTERPOL	75
10.	School Children from Delhi Govt.	200
11.	School Children from M/o Education	200
12.	NSS	200
13.	YEP and NCC Cadets	400 (200+200)
14.	Students from RIMC	30
Beating Retreat Ceremony		
15.	Students of Pariksha Pe Charcha	200

- (ii) **Military Tattoo & Tribal Dance festival:** To mark the 126th birth anniversary of Netaji Subhas Chandra Bose (celebrated as Parakram Diwas), a Military Tattoo and Tribal Dance festival 'Aadi-Shaurya – Parv Parakram Ka' was organised at Jawahar Lal Nehru Stadium, New Delhi on January 23 & 24, 2023.



- (iii) **Vande Bharatam 2.0:** The second edition of Vande Bharatam dance competition was organised as part of RDC 2023.



Dancers from Vande Bharatam pan India contest performing at Kartavya Path during Republic Day Celebrations 2023.

- (iv) **e-Invitation:** As part of Government of India's e-governance initiative, this year an online Invitation Management Portal was launched to issue online invitations to the officials of various Ministries/Departments and other dignitaries and online tickets to general public during Republic Day Celebration. This portal obviates the requirement of issuing physical passes and tickets and provides hassles-free services to the general public and officials.

Invitation Management System



- (v) **Veer Gatha 2.0:** The students (from 3rd to 12th Standard) submitted their entries in the form of poems, essays, paintings, multimedia presentations etc. on gallantry awardees. More than 19 lakh entries were received from all over the country out of which 25 were selected as winners. They were felicitated by Hon'ble Raksha Mantri at a ceremony in New Delhi on 25th January.



25 winners of the 'Veer Gatha' contest during their felicitation ceremony, in New Delhi on August 12, 2022.

F. BEATING THE RETREAT CEREMONY, 2023

- 'Beating Retreat' is a centuries old military tradition practised by the troops at the time of disengaging from battle at sunset. Beating the Retreat Ceremony denotes departure of the troops assembled at Delhi for participating in the Republic Day Celebrations. The Ceremony was organised at Vijay Chowk on January 29, 2023, which brought down the curtain on the Republic Day festivities.



Beating the Retreat Celebrations amid heavy rainfall 2023

G. MARTYR S' DAY CEREMONY, 2023

- On 30.01.2023, the President laid wreath at Mahatma Gandhi's Samadhi at Rajghat. The Vice President, the Prime Minister, Raksha Mantri and other senior dignitaries also paid floral tributes. This was followed by observance of two minutes' silence at 1100 hours to pay homage to those who sacrificed their lives in India's struggle for freedom.



Prime Minister Shri Narendra Modi paying floral tributes at the Gandhi Smriti, on the occasion of the Martyrs' Day, in New Delhi on January 30, 2023.



The Union Minister for Defence, Shri Rajnath Singh paying floral tributes at the Gandhi Smriti, on the occasion of the Martyrs' Day, in New Delhi on January 30, 2023.

H. AZADI KAAMRIT MAHOTSAV

1. Activities/Events organized by MoD

All the departments and organizations under the Ministry of Defence have planned and conducted various events starting from Mar 2021, whether it is the Armed Forces or organizations like NCC, BRO, DRDO, Cantonment Boards, Defence PSUs etc., a month wise calendar of events has been made by all alongwith events aligned with the Amrit Mahotsav themes.



Drone shot picture of 'Azadi ka Amrit Mahotsav' theme

Calendar of events has been prepared for all wings of the Ministry till Aug 2023. Some of the important events conducted till now are:

- **Chillai Kalan Festival**

The Chillai Kalan Festival, which is called the 'Festival of Festivals' was organized by the locals of the Shopian district with support from Indian Army and various government departments. For two days (10th and 11th Dec), Annual Cultural Festival at Batpora Stadium, Shopian district showcases the rich and diverse Kashmiri culture through folk dances, traditional music, local cuisine, handicraft, art workshops, etc. Govt Depts (Tourism, Agriculture, Horticulture, Social Empowerment, Municipal Corporation, Education, and PWD) along with 3000 citizens participated in the festival.





- **Band concert by Indian Navy**

As part of Navy Week Activities for 2022 and to celebrate 'Azadi Ka Amrit Mahotsav' an Operations Demonstration showcasing the myriad of naval operations was conducted on 04 Dec 22. The Southern Naval Command Band enthralled the crowd with their reverberating scores and music, marking the first event of the Op Demo. A total of 26 performers participated in the event.



- **Freedom Run/ Unity Run undertaken at pan IAF**

As part of the 'Azadi ka Amrit Mahotsav', 'Freedom Run / Unity Run' was undertaken pan IAF in the month of Oct 22. A total of 66,045 participants (including Air Warriors/ NCEs/DSC/ families) took part in this Unity run across the nation. A total distance of 1.87 lakh kilometres was covered by all participants at Pan IAF making it a unique event in itself.

- **Ek Bharat Shreshtha Bharat**

Integrated India Peerless India(Ek Bharat Shresth Bharat) was undertaken pan IAF in the month of Sep22. Students of AF Schools participated using Google meet platform with city schools. Various activities such as interactive session, speech, quiz competition, presentation on Historical and Cultural heritage, Folk dance performances, display of traditional attire of states to AFWWA Sanginis and School Children were conducted. Initiatives by Sainik Schools and NCC were taken for curating inter-state student/cadet interactions focusing on national integration.



- **Jan Bhagidari**

'Puneet Sagar Abhiyan' by NCC and interaction programs with fishermen were organized by Coast Guard. Jan Sanwad Utsav was organized by Zila Sainik Boards for Veterans and Ex-servicemen. Particularly through Puneet Sagar Abhiyan, approximately 90 lakh population has been impacted and a total of 18.5 lakh tons of waste has been collected and 9 tons has been recycled.



- **Illumination of ships by Indian Navy**

On the evening of 15 Aug 22, illumination of ships at anchorage near the Flag Point was carried out. Naval Component, Indian Coast Guard, Marine Police and DSS participated in the event. Officials and citizens witnessed firing of flares from ships, illuminating ceremony, fireworks from NSCB Island and band performance.



- **Walkathon conducted for awareness of 'Fit India' campaign**

A walkathon was conducted at Port Blair regions. Around 80 ICG personnel and children from 02 schools took part and symbolized the 'Fit India Campaign' theme emphasizing healthy and hygienic living.



- GRSE participated in AKAM Mega Show 2022 –“Nation Building and CPSEs” organised by Department of Public Enterprise (DPE) at Gandhinagar, Gujarat to promote “Contribution of CPSEs in Nation building since Independence” through an exhibition.



AKAM Mega Show Exhibition-Nation Building & CPSEs from 06-12 Jun 22

- Conversion of World War II Bunker into Historical Museum:** As a part of Azadi Ka Amrit Mahotsav celebrations, one of the World War II Bunker which was present inside the Shipyard has been converted into a Historical Museum and inaugurated on August 12, 2022.



World War II Bunker in HSL converted into Historical Museum

- Eight IN ships were concurrently deployed to seven foreign ports in six continents, to commemorate 75 years of India's Independence and hoist the National Flag, as part of AKAM celebrations.



IN ships deployed to celebrate Azadi Ka Amrit Mahostav

- **Lokayan 22.** IN Sail Training Ship (STS) Tarangini was deployed to West Europe as part of Lokayan 22 from April – November, 2022. The ship participated in Tall Ship Race conducted between Belgium and Denmark and commemorated Azadi Ka Amrit Mahostav (AKAM) at London, UK during the deployment.



LOKAYAN 22

- **'Ek Shaam Desh Ke Naam'**. A Tri-Service Band Symphony, 'EkShaamDeshKeNaam' was conducted at the Siri Fort Auditorium, New Delhi on 15 Oct 2022. Hon'ble RM was the Chief Guest and CDS, the Service Chiefs, CISC and other senior officers of HQ IDS, SHQs and MoD attended the event along with over 3000 personnel and families of the Armed Forces.



BAND SYMPHONY

- **75th Anniversary of Nation's Independence.**

Hon'ble President Shrimati Droupadi Murmu paid homage to fallen soldiers at Amar Jawan Jyoti at National War Memorial on 15 Aug 2022. She was accompanied by Shri Rajnath Singh, Raksha mantri, Shri Ajay Bhatt, Raksha Rajya Mantri and three service chiefs.



- **Nasha Mukht Bharat Abhiyaan**

To create awareness among youth, children and community, Nasha Mukht Bharat Abhiyaan (NMBA) has been launched by Govt. of India on 15th August, 2020 in identified 272 districts.

The interaction event was jointly presided by Union Defence Minister Shri Rajnath Singh and Union Minister for Social Justice & Empowerment Dr. Virendra Kumar. With active involvement of NCC Cadets, so far more than 8 crore people including 3 crore youths, 2 crore women and 1.59 lakh educational institutions have become a part of NMBA.



An interaction with NCC cadets in Nasha Mukti Abhiyaan event

I. HAR GHAR TIRANGA

'Har Ghar Tiranga' is a campaign under the aegis of Azadi Ka Amrit Mahotsav to encourage people to bring the Tiranga home and to hoist it to mark the 75th year of India's independence. Adopting a 'Whole of Government' approach, more than 25 lakh households covering service men, ex-service men and others officers of the Ministry & its subordinate organisations participated in the programme. Some key events were under water National Flag hoisting and cycle rally by ICG, display of 7500 Sq ft flag at Dal lake at Lal Chowk, Srinagar, Flag hoisting at 75 important passes and places by BRO, Swachhta Abhiyaan as part of Puneet Sagar Abhiyaan at sea beaches and water by NCC. Several functions were held at famous monuments and statues for effective outreach of the programme.



As part of 'Azadi ka Amrit Mahotsav' and 'Har Ghar Tiranga' Campaign, Indian Coast Guard District Headquarters 11, Goa took out a Cycle rally



Har Ghar Tiranga campaign by BRO



On the occasion of Army Day, on 15 January 22, the Indian Army unveiled a Monumental National Flag of size 225 feet by 150 feet at Jaisalmer Military Station.



Braving minus 25 degrees Celsius, Darjeeling's Himalayan Mountaineering Institute (HMI) successfully displayed a 7,500 square feet Indian national flag at Mt. Vinson base in Antarctica.



The National Flag, measuring 7,500 sq ft and weighing 75 kilograms, was hoisted atop Mt Rhenock at an altitude of 16,500 ft above sea level by HMI.



As part of Har Ghar Tiranga, 7500 Sq Ft Tricolour displayed at Dal Lake



NCC cadets distributed national flags to the Sarpanch and villagers in door to door activity



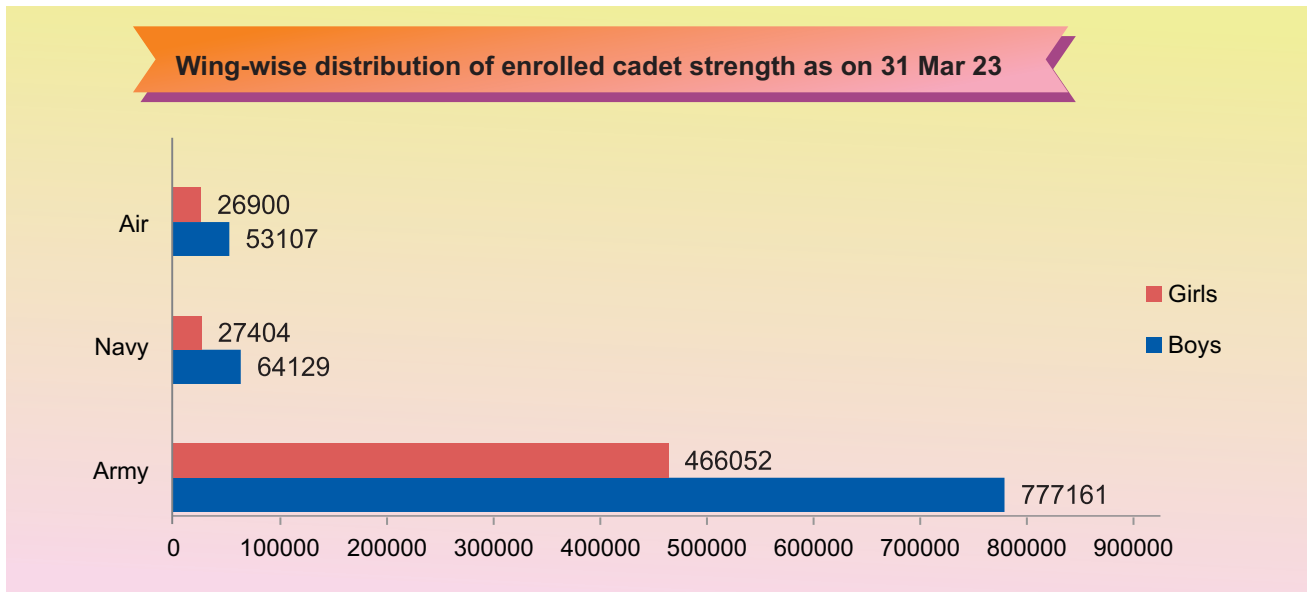
The Indian Coast Guard unfurled the National Flag underwater at sea near pristine islands in the Andaman & Nicobar under Prime Minister Narendra Modi's 'Har Ghar Tiranga' initiative.



Veer Gatha 2.0 Winner Children

NATIONAL CADET CORPS

The National Cadet Corps (NCC) was established by virtue of the NCC Act, 1948. The NCC strives to provide the youth of the country opportunities for all round development with a sense of commitment, dedication, self-discipline and moral values so that they become responsible citizens of tomorrow. The motto of NCC is “**Unity and Discipline**”. Wing-wise distribution of enrolled NCC cadet strength as on 31 Mar 23 is as under: -



NCC covers large number of educational institutions, across the country. Girl cadets make 35.5% of the total enrolment. There are a total of 20390 institutions which includes 2809 schools, 1744 Inter Colleges and 5837 colleges.

Training

Institutional Training

Institutional training includes basic military skills to the cadets as part of the curriculum and prepares them as potential leaders and responsible citizens of the country. Following are the specific purposes for training: -

1

Train volunteer youth to become confident, committed and competent leaders in all walks of life. Enhance awareness levels of cadets to become empowered and responsible citizens of the country.

2

Provide opportunities and encourage cadets to enrich their knowledge, develop communication skills and build character. Conduct social activities and community development programmes, to educate and make constructive contributions towards society.

3

Conduct military training to develop awareness about Armed Forces, leadership skills and military values and thus, provide an environment to motivate cadets to join the Armed Forces

Camp Training

The cadets are exposed to the excitement of camp life, where they apply the theoretical knowledge that they had gained in Institutional Training. It is mandatory for Junior Division/Junior Wing (JD/JW) cadets to attend at least one camp and Senior Division/ Senior Wing (SD/SW) cadets to attend a minimum of two camps during the period of their enrolment.

(a) **Annual Training Camps (ATC):** Till Mar 2023, 1500 camps have been conducted in different venues across the nation. Approximately 7,50,000 cadets participated in these camps. Besides, 187 Centrally organised camps/expeditions were organised which saw participation of 78,647 cadets. These centrally organised camps included Republic Day camp & PM's rally, Space camp, Ek Bharat Shrestha Bharat etc.

Republic Day Camp 2023. Republic Day Camp was conducted at Cariappa Parade Ground, Delhi Cantt from January 1 to 29 every year. A total of 2155 Cadets from all States and Union Territories attended the Camp. In addition, 32 officers and 166 cadets from friendly foreign countries (Argentina, Brazil, Fiji, Kazakhstan, Kyrgyz Republic, Mongolia, Mauritius, Maldives, Mozambique, Nepal, New Zealand, Russia, Seychelles, Sudan, Tajikistan, UK, USA, Uzbekistan and Vietnam) also attended Republic Day Camp from 15 to 29 January as guests of NCC.

PM's Rally 2023. The Prime Minister's Rally the most prestigious event of the NCC Republic Day Camp was held on 28th January 2023. Contingents from all the 17 State NCC Directorates participated in the March Past.



Release of ₹75 Coin by PM Narendra Modi

Adventure and Sports Activities

Adventure Activities: The aim of adventure activities is to inculcate a spirit of adventure, explorative, inquisitiveness, develop stamina, endurance, self-confidence, team spirit Espirit-de-corps amongst the cadets. Adventure based activities enable cadets to hone leadership skills and enhance their character qualities. Potential cadets are given opportunities to participate in expeditions requiring higher degree of expertise and proficiency.

- (a) **All India Trekking Expeditions:** A total of 8670 NCC cadets participated in 17 trekking expeditions.
- (b) **Mountaineering Courses:** 439 cadets vacancies of Basic, Advance, Adventure, Method of Instructions (MOI) and Search & Rescue are subscribed by NCC from following Institutes this year.
 - (i) Atal Bihari Vajpayee Institute of Mountaineering And Allied Sports, Manali
 - (ii) Nehru Institute Of Mountaineering, Uttarkashi
 - (iii) Himalayan Mountaineering Institute, Darjeeling
 - (iv) Jawahar Institute of Mountaineering & Winter Sports, Pahalgam
 - (v) Nehru Institute Of Mountaineering And Allied Sports, Dirang
- (c) **Sailing Expedition:** Each NCC Directorate undertakes a minimum of one sailing expedition for a period of 10 to 12 days, covering a total distance of 400 to 500 kms. 40 to 60 cadets from each Directorate participate in the event. During these expeditions, cadets also undertake social agendas and Swachhta Abhiyan in remote coastal villages.
- (d) **Overseas Deployment (OSD) :** 10 Naval Cadets and one Permanent Instructor (PI) Staff each proceeded for OSD to Oman, Eritrea, Egypt, Saudi Arabia, Oman, Kuwait, the UAE, Iran and Djibouti.

Sports

NCC Cadets from all NCC Directorates actively participate in various sports activities at the National level. Some of the major sporting activities conducted are as follows:



Major sporting activities

Youth Exchange Programme (YEP)

Incoming YEP.

- (a) On the occasion of 75 Years of Independence, Special YEP was conducted from 09 -17 Aug 2022. 26 Officers and 124 Cadets from 14 countries Argentina, Brazil, Fiji, Indonesia, Kyrgyz Republic, Maldives, Mauritius, Mozambique, Nigeria, Seychelles, UAE, UK, USA and Uzbekistan participated in the event.



- (b) On the occasion of 75 Years of NCC Raising, 19 countries participated in Republic Day Camp w.e.f. 16 to 29 January, 2023. Total 33 Officers and 163 Cadets participated from Argentina, Brazil, Fiji, Kyrgyz Republic, Kazakhstan, Maldives, Mauritius, Mozambique, Mongolia, New Zealand, Nepal, Russia, Seychelles, Sudan, Tajikistan, UK, USA, Uzbekistan and Vietnam.



Outgoing YEP.

- (a) **Vietnam YEP.** First time since onset of COVID-19, Two officers and 13 Indian cadets visited Vietnam from 19 Sep to 28 Sep 2022.
- (b) **Kyrgyzstan.** One officer and five cadets visited Kyrgyzstan from 07 Dec to 14 Dec 2022.
- (c) **Bangladesh.** Two officers and twenty cadets visited Bangladesh from 12 Dec to 23 Dec 2022.
- (d) **Maldives.** One officer and four cadets visited Maldives from 24 Dec 2022 to 04 Jan 2023.
- (e) **Nepal.** Two officers and 16 Cadets visited Nepal from 15 Feb 2023 to 26 Feb 2023.

Social Service and Community Development (SSCD) Programmes

The social service and community development activities include, Fit India Campaign, Swachh Bharat Abhiyan, Tree Plantation, Jal Shakti, Anti-Drug Rally, Cancer Awareness, Disaster Relief, Blood Donation and Immunization, Beti Bachao Beti Padhao, AIDS Awareness, Care for the Blind, Women Health & Sanitation, Assistance in Natural Calamities, Road Safety & Discipline, Yoga Day, Digital Literacy, Skill Development Awareness and other similar relevant contemporary social issues. The SSCD activities are now also included in the revised syllabus for NCC cadets.

International Day of Yoga (IDY). The Hon'ble Prime Minister of India, in his speech during PM's Rally for NCC cadets on 28 Jan 2015 gave a clarion call for all NCC cadets to participate in International Day of Yoga. Since then every year on 21 Jun IDY is being organised Pan India by NCC. This year a total of 9,36,696 NCC cadets participated at 5,336 different locations.



National Youth Festival. The National Youth Festival is held every year to commemorate the birth anniversary of Swami Vivekananda on 12 Jan. As per the direction of MoYAS, the cadets participated in the event from 12-16 Jan 2022 in virtual celebration.

Rashtriya Ekta Diwas (National Unity Day). The birth anniversary of Sardar Vallabhbhai Patel was celebrated to foster and reinforce our dedication to preserve and strengthen the unity, integrity and security of our nation. The various activities like 'Pledge Taking Ceremony', 'March Past' and 'Unity Run' were participated by One lakh cadets. In addition, a drill contingent comprising of three wings (i.e. Army, Navy & Air) duly represented by both senior boys (SD Cadets) and girls (SW Cadets) from border area represented NCC in the march past in front of the Unity Statue as part of Unity Day Celebration at Kevdiya, Gujarat.

Puneet Sagar Abhiyan. As per the vision envisaged by the Hon'ble Prime Minister, Puneet Sagar Abhiyaan is a noble initiative launched on 01 Dec 2021, aimed to clean up sea shores/beaches, remove plastic/other waste and spread awareness about need for clean and pristine beaches and hazards of plastic pollution. Keeping abreast with PM's vision, NCC has undertaken a nationwide campaign and conducted sustainable conservation and cleaning program amongst the local population along sea beaches, river banks and lakes. The Abhiyan was very well received by the local populace and became extremely popular generating large involvement from locals and tourist alike. The Abhiyan gained mass popularity resulting in the Prime Minister praising the campaign not only in his Mann Ki Baat on 26 Dec 2021 but also reemphasizing the same in his talk during the NCC PM Rally on 28 Jan 2022. Approximately 13.5 lakh NCC cadets have participated in the Abhiyan till date and collected almost 208 tons of plastic waste out of which 167 tons has been sent for recycling till date. **In addition, an MoU has also been signed with UNEP.**



NCC @75

Unity Flame Run. A Unity Flame Run was conducted w.e.f. 27 Nov 2022 to 28 Jan 2023. The run commenced from Kanyakumari and culminated at Cariappa Parade Ground, New Delhi. Col Krishan Singh Badhwar ran the entire distance of 3000 km @ of 50 km per day for 60 days. Total of 4000 cadets also participated in the run along the way. In addition, a vehicle based flame which covered 2800 Km was also launched from Dibrugarh and merged with the main flame in Agra. The flame was finally handed over by Col Krishan Singh Badhwar to Hon'ble PM during the PM Rally on 28 Jan 23 at Cariappa Parade Ground.



UNITY FLAME BEING HANDED OVER TO HON'BLE PM AT PM RALLY: 28 JAN 23

Dandi To Delhi Motorcycle Rally. As part of the 75 years of NCC raising, a 10 Day Motorcycle Rally was participated by 34 Offrs/ANOs/JCOs/NCOs and 25 NCC Cadets from Dandi to Delhi wef 15 Jan 23 to 25 Jan 23 covering distance of 1300 Km.



NCC CADETS AT PRESIDENT AT HOME



NCC CADETS AT PM AT HOME

BORDER ROADS ORGANISATION

The Border Roads Organisation (BRO) was raised on 7th May 1960 to secure India's borders and develop infrastructure in remote areas of the North and North-Eastern States of the country. Starting operations in May 1960 with two Projects, it has now grown to 18 Projects. Nine BRO Projects are located in Northwest India and eight Projects in North Eastern Region of India. One project is located in Bhutan. Over past 60 years, the Organization has constructed more than 61000 km of roads, 915 permanent bridges, 04 Tunnels and 19 airfields under adverse climatic and geographical conditions. BRO, till 2015 was under the administrative control of MoRT&H and was constructing roads as per the requirement and priorities of Army. In order to streamline the processes, it has been brought under the administrative control of MoD in 2015.

Important Activities

- i) **Laying Foundation Stone for Widening of Roads in Forward Areas in Uttarakhand.** During a Mega event on 22 Oct 2022, Hon'ble Prime Minister Shri Narendra Modi laid Foundation Stone for widening of two roads i.e. Mana to Mana Pass (NH-07) and Joshimath to Malari (NH-107B) in Uttarakhand to be undertaken by BRO for a cost of Rs 997 Cr. The Hon'ble Prime Minister stayed at BRO's detachment at Mana thereby boosting the morale of the entire BRO Karmyogis.



Prime Minister Shri Narendra Modi with BRO Karmyogis at Mana, Uttarakhand

- ii) **Laying e-Foundation Stone of Married Accommodation Complex at Todapur.** The Hon'ble RM through virtual mode laid the foundation stone of Married Accommodation Complex at Todapur of BRO personnel posted at Delhi on 7th May, 2022 during an event of 63rd BRO raising day.
- iii) BRO delivered a total of 103 Projects in 2022. BRO dedicated 75 Infra Projects across 7 States and 2 UTs to the nation on 28th Oct, 2022 and 28 Infra Projects across 5 States and 2 UTs on 3rd Jan, 2023 by Hon'ble Raksha Mantri.



Inauguration of 75 Infrastructure Projects by Hon'ble Raksha Mantri

Other Achievements

- 1) **Adoption of New Technologies.** Over the past few years, a lot of modernisation has taken place in BRO, with new technologies being introduced to improve both the quality and speed of construction. The following new technologies have been incorporated:-
 - a) Cementitious Base technique for surfacing work of roads
 - b) Geo Cell for road works
 - c) Plastic Coated Aggregate for bituminous work
 - d) Soil stabilization through biological enzyme
 - e) Avalanche Protection Structures
 - f) M50 Modular Blocks
 - g) Precast Concrete Technology (Cut & Fit Technology) for construction of Reinforced Earth Wall, precast Breast walls, Drains, Culverts and Pavements.
 - h) **Use of Steel Slag in Road Construction.** BRO is undertaking a pilot project on Joram-Koloriang road in Arunachal Pradesh for use of steel slag in road construction with the help of CSIR-CRRI which can withstand heavy rains and adverse climatic conditions.
- ii) **Automation & Digitisation.** BRO has developed ten major software and one website with the help of BISAG-N and NICS I related to management of works, HR, automation and for disseminating information and facilitating booking for visit to Atal Tunnel, Rohtang. Digitisation of land used for BRO roads has also been done to increase the efficiency and transparency of the organisation with the aim of better utilization of all assets.
- 2) **BRO@63 Multi-Dimensional Expedition.** The Hon'ble Governor of Uttarakhand, Lt Gen Gurmit Singh, PVSM, AVSM, UYSM, VSM (Retd) flagged off the "BRO@63 Multi-Dimensional Expedition" from Dehradun on 26th Apr, 2022. The expedition included four distinct activities to include a mountaineering trek to the 15000 feet Pangarchula Peak covering a distance of approximate 50 km, river rafting in the rapids of River Ganga for 35 km, cyclothon from Dehradun to Delhi covering a distance of 591 kms and a 'Fit BRO' endurance run from Roorkee to Delhi covering a distance of 190 km. A total of 63 BRO Karmayogis including six women participants undertook this adventure.
- 3) **BRO@63 All Women Electric Vehicle Rally.** Hon'ble Raksha Mantri flagged-off 'BRO @ 63-All Women Electric Vehicle Rally' on 7th May 2022. A team of 10 women officers and all ranks of BRO traversed approximately 750 kilometers on Electric Cars through the National Capital region, Uttar Pradesh and Uttarakhand and flagged-in on 9th May, 2022 at HQ DGBR.

Controller General of Defence Accounts

Outreach programme for Defence Pensioners on SPARSH.

The Defence Accounts Department organized the 176th Raksha Pension Samadhan Aayojan, an outreach programme for Pensioners on the SPARSH [System for Pension Administration Raksha] at New Delhi on 14th December 2022. The Defence Secretary, Shri Giridhar Aramane was the Chief Guest at the function. Vice Chiefs



of the Armed Forces, Secretaries and Senior Officials off the Ministry of Defence were also present on the occasion. The Defence Secretary virtually inaugurated a SPARSH Service Centre in Delhi Cantonment. The department also signed a MoU with Six Banks. The unified system brings services ranging from digital process of pensioner verification to real time tracking of grievance redressal at the doorstep of the veterans.

Controllers' Conference -2022

The Defence Accounts Department organised two days Controllers' Conference in New Delhi on 14th & 15th December 2022. The Hon'ble Raksha Mantri Shri Rajnath Singh inaugurated this conference. This Conference



provide the Department and the Ministry a platform to take stock of various issues, deliberate and arrive at sustainable solutions by the top management of Defence Accounts Department. Interaction with the Armed Forces and Services is an integral part of this conference. On the occasion, the Raksha Mantri released a stamp and a special cover envelope commemorating 275 years of the DAD.

Establishment of Agniveer Pay and Accounts Office (Army) Delhi Cantt.

The Agniveer Pay and Accounts Office (Army) Delhi Cantt. was inaugurated by the Hon'ble Raksha Mantri Shri Rajnath Singh and launched Agniveer Pay System on 01st October 2022. The system facilitates efficient pay management for Agniveers, who joins the Armed Forces through the Government's transformational Agnipath scheme. The fully automated IT system is a specialised and secure portal to ensure claim processing and pay-roll management of Agniveers.

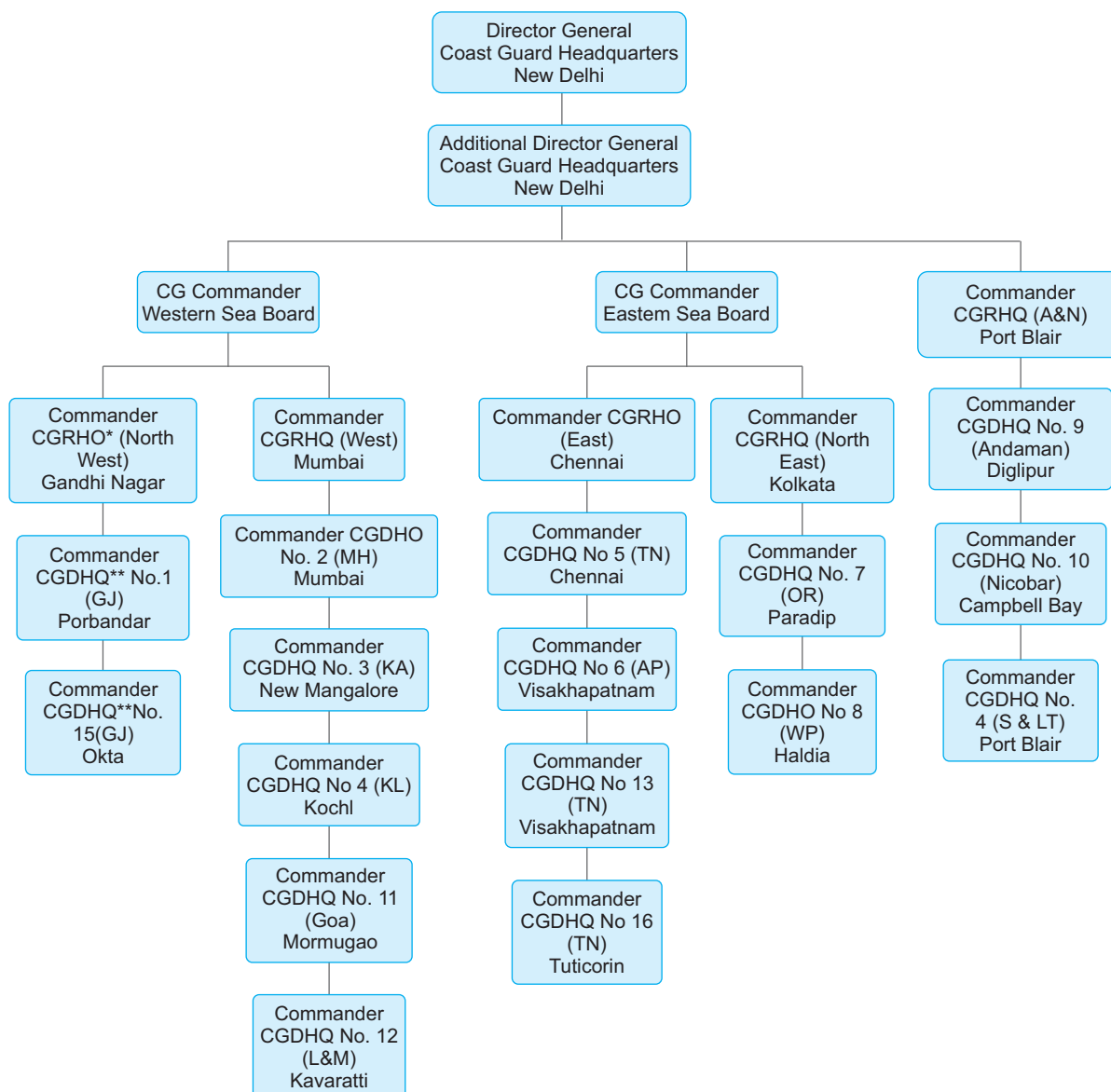


INDIAN COAST GUARD

ORGANISATION

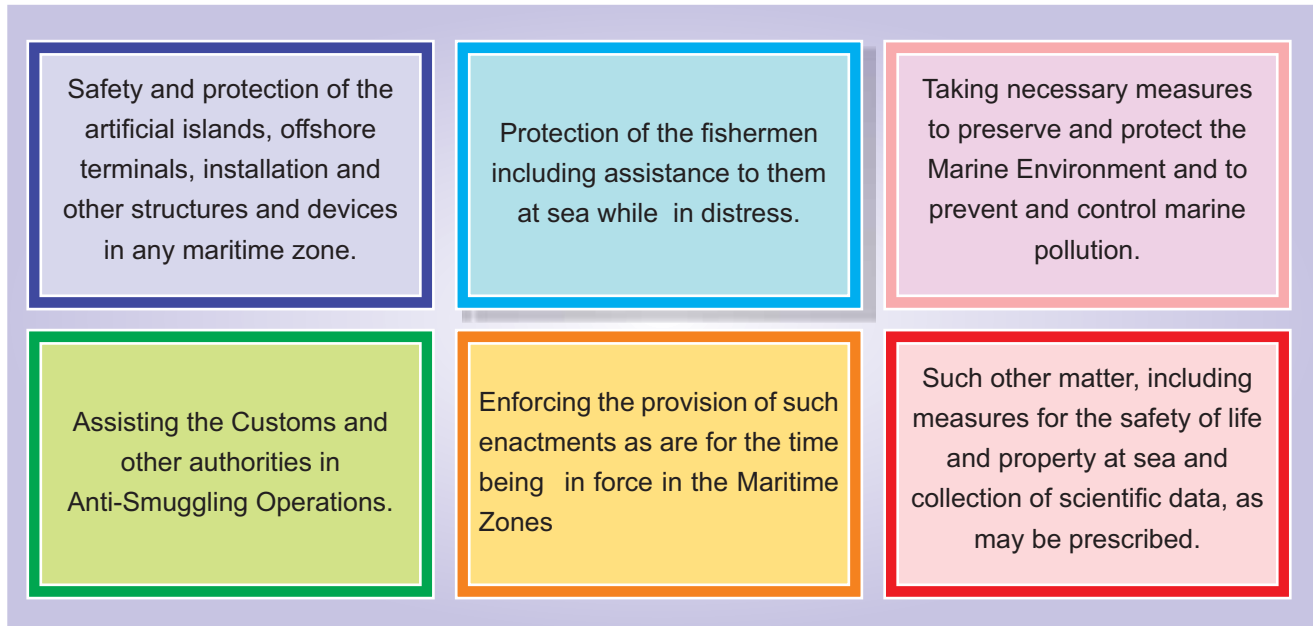
In 1977, Union Cabinet approved the setting up of 'Coast Guard' with a fleet strength of 02 Ships ex-IN and 05 Patrol Boats ex-Customs. Indian Coast Guard (ICG) was formally established as an Armed Force of the Union on August 18, 1978 by the Coast Guard Act, 1978 passed by the parliament. ICG functions under Ministry of Defence.

The Coast Guard organisation is headed by the Director General Indian Coast Guard (DGICG) exercising his overall command and superintendence from Coast Guard Headquarters (CGHQ) located at New Delhi. For effective command and control, the Maritime Zones of India have been divided into five Coast Guard Regions with a Regional Headquarter each at Gandhinagar, Mumbai, Chennai, Kolkata and Port Blair.



The regions have been further sub-divided into 16 Coast Guard Districts covering the coastline along the nine maritime States on the main land and on Union Territories, three District Headquarters in the Andaman & Nicobar Islands and one District Headquarters in Lakshadweep & Minicoy Islands. In addition, 42 Coast Guard Stations are functioning under Coast Guard District Headquarters. There are 10 Coast Guard Air Stations and Air Enclave which are responsible for air borne operations of the Coast Guard.

Duties and Functions



ICG has also been given many additional responsibilities of Coastal Security in Territorial Waters, Enforcement, Monitoring and Surveillance of Deep Sea Fishing, Maritime Search and Rescue, Marine oil-spill response measures. It is also the Lead Intelligence Agency for coastal and sea borders.

Coastal Security

Coastal Security Exercises. ICG, in coordination with Indian Navy (IN), has been undertaking patrol and surveillance of the entire coastline. Since 2009, a total of 227 Coastal Security Exercises have been conducted for ensuring effectiveness of the coordinated patrolling and validation of Standard Operating Procedure. Exercise 'Sagar Kavach' was conducted to test and revalidate the transition phase from peacetime to hostilities and multiple activities towards preparation for hostilities during precautionary stage were stimulated.



Coastal Security Operations. With the sustained impetus on Coastal Security, a total of 526 Coastal Security Operations have been conducted since 2009, in coordination with all stakeholders. In addition, ICG conducts a special operation 'Sajag' once every month in each Coast Guard Region, wherein all available operational ships are deployed on a random day. ICG ships/ boats conduct maximum boarding operations to check documents of fishing boats including ID cards of fishermen. A total of 347 'Sajag' operations have been conducted till date.

Community Interaction Programmes. Since 2009, Indian Coast Guard has conducted a total of 10696 Community Interaction Programmes to sensitize fishermen on safety and security issues and to create awareness about usage of lifesaving equipment like Disaster Alert Transmitters, lifebuoys and life jackets etc.

Boarding Operations. Since 2009, a total of 2,95,741 Boarding Operations have been conducted. Out of these, a total of 20146 boarding operations have been carried out by ICG ships in 2022.

Joint Coastal Patrol (JCP) by ICG and Coastal Police. Joint Coastal Patrol (JCP) by Indian Coast Guard and Coastal Police for enhancing coastal security, enshrined in the Hon'ble Prime Minister's Vision Document, was instituted in Aug 2020. Despite challenges imposed by COVID-19, enhanced coordination, and synergy between local Coastal Police personnel and ICG units resulted in conduct of 477 JCP sorties during the year 2022. A total of 1236 sea sorties, 677 classroom instructions and 3288 personnel have been embarked onboard for JCP sorties till date.



Commissioning of 840 SQN (CG), an ICG Advanced Light Helicopter (ALH) Mk-III squadron FOR COASTAL PATROL.

Significant Milestones and Achievements

4 surface platforms comprising 01 Offshore Patrol Vessel, 01 Work Boat and 02 Auxiliary Barges have been inducted in ICG during the year 2022.



Overseas Deployment of ICG Ships: ICGS Sarathi along with INS Tir and Sujata departed Kochi on Apr 12, 2022 and entered Salalah (Oman) on Apr 18, 2022 as part of training schedule of the 1st Training Squadron. The ship also visited Massawa (Eritrea), Djibouti, Safaga (Egypt), Jeddah (Saudi Arabia) ports during the OSD. The ship returned Kochi on May 16, 2022.

8th National Level Pollution Response Exercise at Goa. The 8th National Level Pollution Response Exercise (NATPOLREX-VIII) was conducted from Apr 18-19, 2022 at Goa. During the exercise, 30 foreign delegates from 19 countries, 01 representative each from the International Tanker Owners Pollution Federation Ltd (ITOPF) & South Asia Cooperation Environment Programme (SACEP), 01 SLCG ship Suraksha, 01 BCG ship Kamaruzzaman and delegates from Central and State departments, major ports, non-major ports, oil handling agencies and oil installation onshore participated in the exercise. Workshop and tabletop exercise were also conducted on Apr 18, 2022 in which Indian and foreign delegates participated.

10th National Maritime Search and Rescue Exercise-2022 (SAREX-22). The 10th SAREX-22 was conducted from Aug 26, 2022 —Aug 28, 2022 at Chennai with participation of 24 overseas partners from 16 countries. The exercise witnessed the largest ever participation from International delegates including 51 national stakeholders.

Heads of Asian Coast Guard Agencies Meeting (HACGAM). ICG hosted the 18th HACGAM at Delhi from Oct 14-18, 2022 wherein 55 foreign delegates participated. The conduct of meeting highlights ICG as a flag bearer of 'White Hull Diplomacy' in IOR and Indo- Pacific Region.

Collaboration of ICG with Scientific Community for strengthening M-SAR mechanism. ICG Collaborated with INCOIS, MoES and AAI to develop SAR Software — Search & Rescue Aid Tool — Integrated (SARAT I) for generating probable Search area in case of Aeronautical incident at sea. ICG collaborated with ISRO to develop Second Generation Distress Alert Transmitter (DAT), the trials of which are in final stages. A constant liaison is being maintained with IMD to receive early warning of cyclonic weather and subsequently disseminate to fishermen and coastal populace for preventive actions leading to safety of life and property.

Coastal security Conference. Coastal Security Conference 2022 under the aegis of Colombo Security Conclave was conducted on Dec 01-02, 2022 at Chennai. The Coastal Security Conference witness participation from International, National and State level Coastal security stakeholders. Coast Guard delegation from member countries viz Maldives, Sri Lanka and Mauritius participated with representative from Bangladesh as an observer. Shri Giridhar Armane, IAS, Defence Secretary inaugurated the maiden Coastal Security Conference 2022 and Deputy National Security advisor of India Shri Vikram Misri, IFS was the guest of honour. The theme of Coastal Security Conference was collaborative efforts for Coastal Security. The coming together of Indian Ocean region countries in the conference indicated the development of sub regionalism on a common Maritime & Security platform and is significant in a wider global context of progress. The prominence of Coast Guard to Coast Guard cooperations.



ARMED FORCES MEDICAL SERVICES (AFMS)

AFMS provides dedicated, dependable and comprehensive health care to Defence Personnel and their families. Medical Services are also provided to personnel of para-military organizations, while posted in the field and other Central Police/ Intelligence Organizations and General Reserve Engineering Force (GREF) Units, operating in the disturbed and forward areas of country. The medical care is also provided to ex-servicemen and their dependents within the country. During natural calamities, disasters and operational areas, it also serves civilian population.

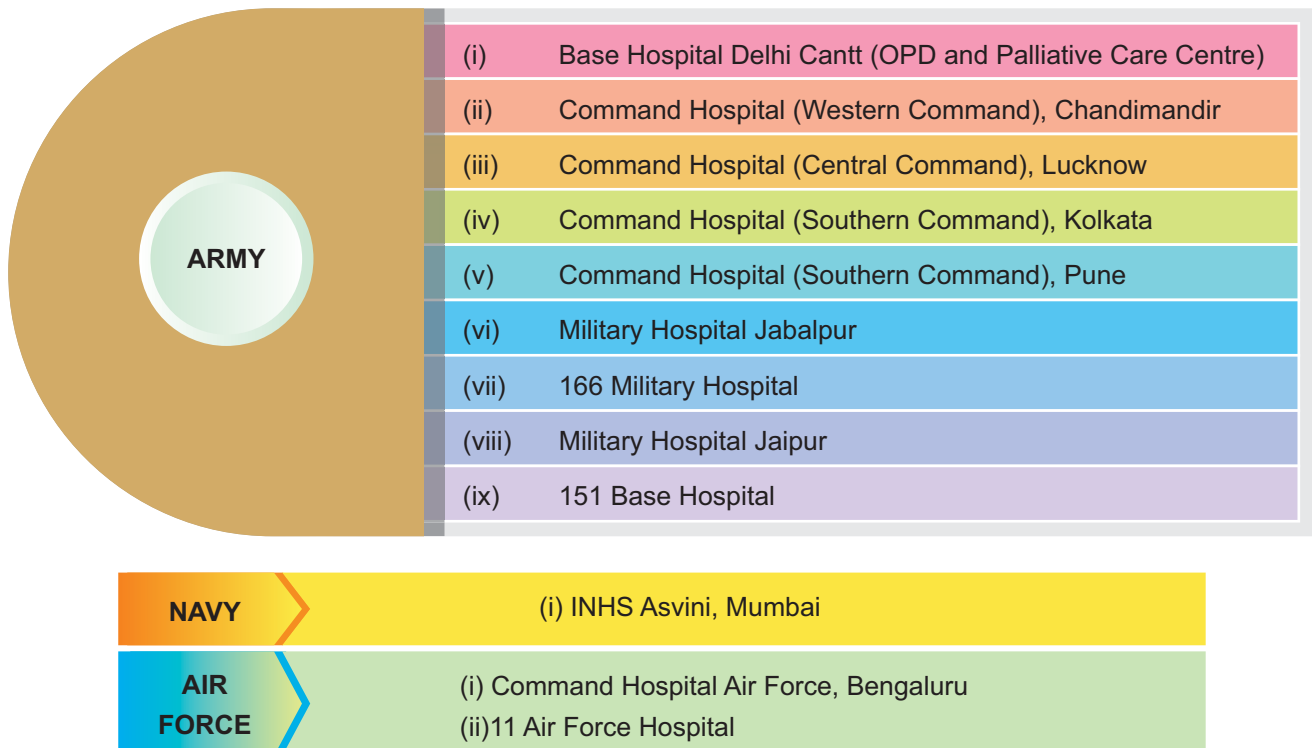
The AFMS consists of the Medical Services of the Army, Navy and Air Force and the Directorate General, Armed Forces Medical Services (DGAFMS). Each Medical Service is under a Director General Medical Service (DGMS) in the rank of Lt General or equivalent. The DGAFMS, who heads the Service, is Medical Advisor to the Ministry of Defence and is the Chairman of the Medical Services Advisory Committee. AFMS includes Officers of the Army Medical Corps (AMC), AMC (Non-Tech), the Army Dental Corps (ADC) and the Military Nursing Services (MNS). There are 132 Armed Forces Hospitals. The authorized strength of AMC, ADC, MNS and AMC (NT) is 7937, 788, 5358 and 377 respectively.

Modernisation/ Infrastructure in Armed Forces Medical Services

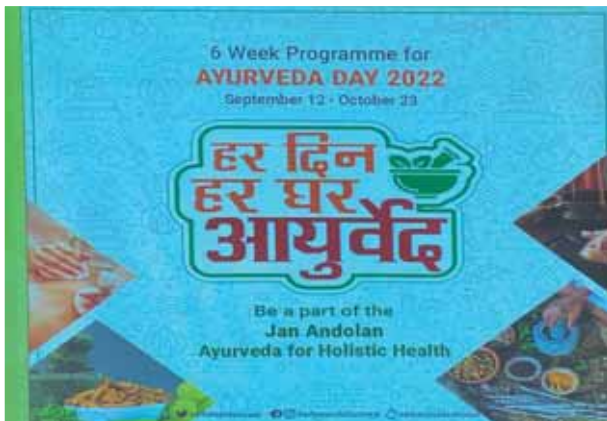
Ayurveda Clinic at Command Hospital (Eastern Command). Ayurveda Clinic was inaugurated by Regional President, AWWA on 08 Jun 2022.

Ayurveda in AFMS (2022)

- (a) A MoU was signed at the Global Ayush Investment & Innovative Summit at Gandhinagar on 21st Apr 2022 between MoD and Ministry of Ayush for Extension of services of Ayurveda in the Health Establishments of AFMS as OPD services for two years. The GSL on Integrating Ayurveda under health establishment under Ministry of Defence/ DGAFMS was approved on 13 May 2022. The Ayurveda OPDs were operationalized on 01 Jul 2022 at following 12 AFMS Hospitals under the technical guidance of Ministry of Ayush:-



- (b) Ayurveda services are being offered to the dependents of serving Armed Forces personnel and Ex-Servicemen and their dependents. Ayurveda doctors and Ayurveda Pharmacists have been employed on contractual basis at these centres. All essential Ayurveda medicines are being provided to the clientele at these centres by AFMS. Till 28-Feb-2023, approximately 18,842 patients have availed services of the same.
- (c) **Ayurveda Day Celebration** A series of awareness camp cum lectures were organized at AFMS Ayurveda centres from 12 Sep 2022 to 23 Oct 2022 to commemorate “Ayurveda @ 2047 on the theme “Ayurveda Everyday – Ayurveda Everywhere”. A total of 45 events were conducted across 12 AFMS hospitals with Ayurveda setup. These events were attended by approximately 6000 beneficiaries.



POSTER AT CHEC, KOLKATA ON 30 SEP 2022



EVENT ORGANISED AT CHCC, LUCKNOW



PROMOTION OF AYURVEDA AHAR AT 166 MH, JAMMU

Automation/ Digitization in Armed Forces Medical Services

Ayupravidha. Ayupravidha is a Naval Unified Domain (NUD) based software application intended to digitalize the conduct (work flow) of Annual Medical Examination (AME)/ Periodic Medical Examination (PME). The application has been made live for usage on NUD wef 02 Nov 22.

SeHAT. Service e-Health Assistance and Teleconsultation (SeHAT) is the flagship project of HQ IDS (Med) where online teleconsultation is facilitated for serving personnel, dependents, and ECHS beneficiaries. It was formally launched by Hon'ble Raksha Mantri on 21 May 2021. More than 10000 tele-consultations have been completed and the application is available in android and iOS version in their respective app stores. Indian Coast Guard has also been on-boarded and has started registering patients and doctors. Pharmacy and Specialist OPD modules are under development with C-DAC Mohali for online specialist OPD consultations and issue of medicines to dependent clientele. An ECHS module is under development to enable ECHS members to login with ECHS card number and to facilitate issue of medicines by dependent ECHS polyclinics.

e-Aushadhi and e-Upkaran. After deliberations with all stake holders, two improved supply chain & inventory management systems for drugs & consumables (e-Aushadhi) and med equipment (e-Upkaran) were developed in collaboration with C-DAC Noida. All med units of AFMS are presently using e-Aushadhi and e-Upkaran for procurement and demand of consumables and equipment in medical stores. Services of Data Centre are also being provided by C-DAC Noida through their tier-III Data Centre after approval from higher authorities.

ISRO Tele-Medicines Nodes. HQ IDS (Med) in collaboration with DECU, ISRO Ahmedabad, had installed 83 Telemedicine (TM) nodes at various remote locations of the country in all 3 services of Indian Army, Navy and Air Force. Presently the nodes are functional and used by medical units for tele-consultations and continuous medical education (CME) programs. A MOU has been signed between, HQ IDS and DECU, ISRO, Ahmedabad for providing continuous maintenance support to all the TM Nodes for next 3 years.

Disaster Relief & UN Mission

- (a) The Army Medical Corps is committed in peace-keeping operations of United Nations and provision of humanitarian medical aid in various parts of the world. The units/ hospital deployed in UN mission including 01 x Level III hospital, 01 x Level II plus, 01 x Level II Hospital, 11 x Level I hospitals besides IMT Lebanon. The Level III hospital in MONUSCO is the largest medical establishment in Democratic Republic of Congo with all specialty. The medical deployment includes MONUSCO (Democratic Republic of Congo), UNMISS (South Sudan), UNIFIL (Lebanon), UNDOF (Israel) & UNISFA (Abyei).



EMERGENCY MANAGEMENT IN LEVEL II HOSP SOUTH SUDAN



TRAUMA MANAGEMENT IN SOUTH SUDAN



TRAUMA CARE IN EMERGENCY DEPT SUDAN



PREPARATION FOR HELI EVACUATION- CONGO

(b) Presently **373 personnel (including 12 EME & 01 Engineer)** are deployed in following medical echelons in UN Missions. The medical echelons are being provided the **logistics support** in terms of **Medical and Non-medical stores** from India to ensure the **operational readiness** of the hospitals.

Sr No	Name of Msn	Offrs	MNS Offrs	JCOs/OR	Total	No & type of Hospital
(i)	MONUSCO (DR Congo)	30	05	89	124	01xLevel- III 02xLevel- I 01X Staff Officer
(ii)	UNMISS (South Sudan)	45	08	144	197	01xLevel- II 01xLevel- II plus 03xLevel -I
(iii)	UNIFIL (Lebanon)	09	03	23	35	01xLevel -1 01xIMT 01X Staff Officer
(iv)	UNDOF (Israel)	01	-	03	04	LOGCOY
(v)	UNISFA (Abyei)	03	-	10	13	01xLevel -1 01X Staff Officer

- (c) **Certificate of Distinction to Indian Fd Hosp (IFH) in UN Mission.** IFH Level-III, MONUSCO (DR Congo) and Level-II Plus, UNMISS (South Sudan) have been awarded a Certificate of Distinction for achieving high standards of Healthcare Quality and Patient Safety (HQPS) in their respective mission. Indian Hospitals are the only hospitals to achieve these standards in the international environment. IFH Level-II, UNMISS (South Sudan) has been awarded Force Cdr Citation.

Major Achievements

Organ Transplant in AFMS Hospitals.

(a) **Heart transplant at AICTS, Pune.**

- (i) The first successful heart transplant was carried out on Mr Mohd Fardeen Mansoori, 15-year-old teenage boy on 30 May 2022 which saved the life of the boy and gave him a healthy future.
- (ii) The second heart transplant and first in adult was successfully carried out on a 53-year-old serving soldier, Nk Harpal Singh, DSC. With the help of the IAF in transporting of the organ, the transplant was carried out at AICTS Pune on 30 Jan 2023.

- (b) **Liver Transplant at AH (R&R).** 38 Years old Hav Narender Kumar got a new lease of life as he was successfully transplanted Liver brought through green corridor from AIIMS, marking revival of the liver transplantation program at AHRR after 3 years.

- (c) **Kidney Transplant at CH (EC).** 38-year-old, Nk Brij Bhan of the Corps of Signals posted in HQ 4 EW Brigade (EC) had end Stage Kidney Disease and was on dialysis with kidney transplant being the only treatment. On 01 June 2022, there was an alert for a deceased kidney donation from a brain dead patient in Apollo hospital Kolkata. Two kidneys were harvested with one kidney being transplanted on 03 June by Command Hospital (Eastern Command) Kolkata. Nk Brij Bhan received this gift of life in the form of the kidney donation. He has now recovered and is no more on dialysis and can lead a normal life continuing his service in the army.

- (d) **First Bilateral Simultaneous Cochlear Implantation at Command Hospital (EC).** On 21st Jun 2022, Dept of ENT, Command Hospital Eastern Command (CHEC), Kolkata performed Bilateral Simultaneous Cochlear Implantation (CI) in a 4-year-old girl child with deafness since birth. The epoch making surgery was performed by Lt Col Sunil Goyal (Cochlear Implant Surgeon) under able leadership of Maj Gen Shivinder Singh, Commandant, CHEC, Kolkata. This is the first of its kind in a Govt Hospital in Eastern India. The surgery was performed under general anesthesia and lasted about 3 hours.

- (e) **Thalassemia Bone Marrow Transplant Patient at CH (EC), Kolkata.** Surojeet Ghosh S/O Hav SK Ghosh, HQ EC Adm Br, first ever recipient of Thalassemia Bone Marrow Transplant (BMT) done in CHEC reached day 100 post Bone Marrow Transplant. He had a challenging journey with complications of GVHD (Graft-vs-Host-Disease), CMV (Cytomegalovirus Infection), PRES (Posterior Reversible Encephalopathy Syndrome) and Status Epilepticus which were efficiently dealt by the team of CHEC especially including the Department of Pediatrics, Pathology, TCEC and other departments.



OTHER ORGANISATIONS OF DEPARTMENT OF DEFENCE

Directorate General Defence Estates (DGDE)

DGDE, New Delhi has advisory and executive functions in matters relating to management of Defence lands and Civic Administration in 62 Cantonments. It presently functions through six Principal Directorates at Jammu, Chandigarh, Kolkata, Lucknow, Pune and Jaipur. The Principal Directorates in turn supervise a number of field offices, i.e. 39 Defence Estates Offices, 04 Assistant Defence Estates Offices and 62 Cantonment Boards. These field offices are entrusted with the day-to-day management of Defence lands and Cantonment Boards across the length and breadth of the country.

191

Schools and Colleges Maintained by Cantonment Boards

28

Skill development Centers providing training in Computer Applications, Automobile repairing, Electrical and Electronics and IT Applications etc.

28

Centers for differently abled children for special needs like medical examination, counselling

74

Hospitals and Dispensaries

NEW INITIATIVES

Survey of land using latest technologies:

The exercise of Drone Survey of all 62 Cantonments was initiated. The high resolution drone imagery having a spatial resolution of 5 cms is being utilized for calculation of built-up area on B-1 (Central Govt) and B-2 (State Govt) in Cantonments for verification of service charges which is to be paid by concerned agencies to the cantonment Boards. The information will further be used in correctly determining the land area or footprint of building while revising the property tax assessment which will enable Cantt Boards and CEOs to avoid property tax evasion or under-assessment. This would enable utmost transparency and accountability and would significantly improve monitoring over local officials.

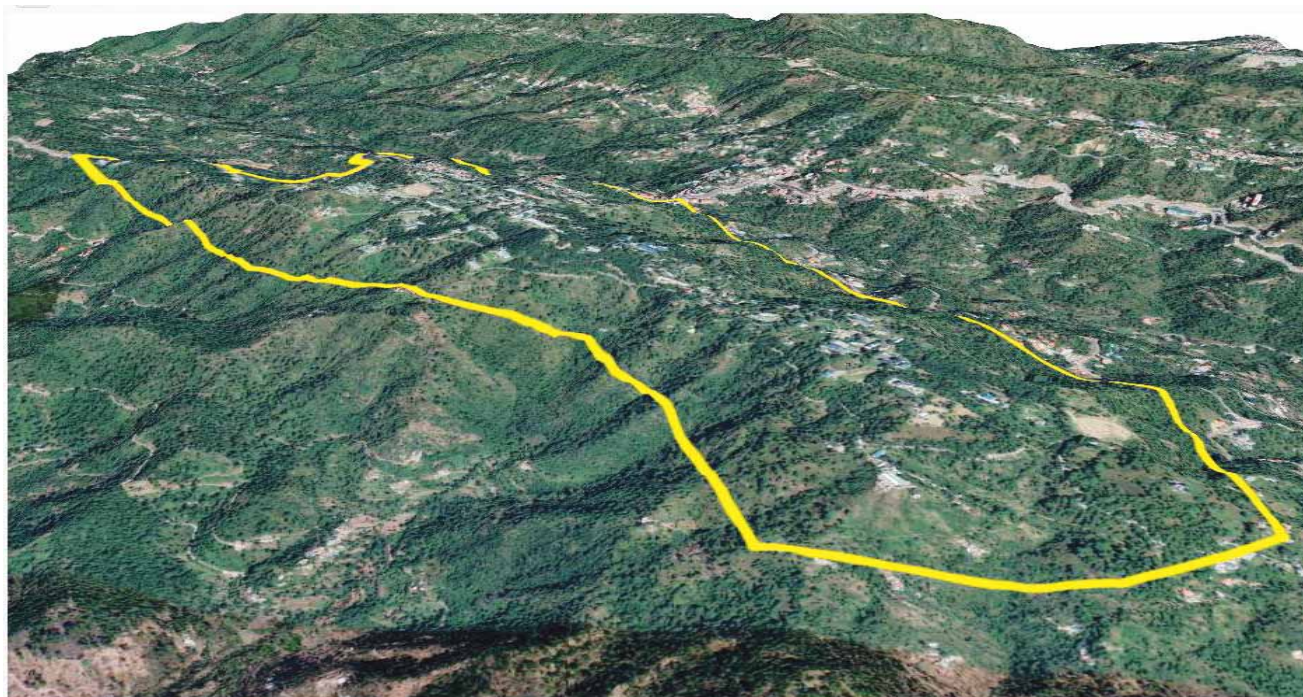
Centre of Excellence (CoE) :

A Centre of Excellence (CoE) in Land Survey under aegis of DGDE has been established in December 2021. CoE has utilized GIS and Remote sensing technologies and developed a customized **Land Use Analysis** tool for land use analysis of defence land which utilizes open source Satellite imagery and open source GIS platforms for classification of land into various categories viz vacant land, built-up area, vegetation, roads and water bodies. This is being used in optimal utilization and management of defence land in a pocket by ascertaining current use of land without any human intervention, thus saving time and effort. This technology is used for analysis of acquisition and land transfer cases.

In another initiative to check encroachment on precious defence land as well as to effectively monitor the vacant defence land. Satellite imagery based **Change Detection Module** has been developed. This module utilizes time-

series satellite imageries from various sources and detects changes on defence land. The action taken by the CEOs/DEOs with regard to these encroachments is then monitored by the HQrs. Thus, it reduces human interventions and checks leakages in the system and independently verifies the inputs of the local officials.

The 3D imagery analysis & visualization Software has been developed by CoE-SURVEI in collaboration with knowledge partner NASCENT Info Technologies, Ahmedabad for 3D imagery analysis & visualization of hilly terrains. This tool helps in effective and optimal land management of hilly and inhospitable terrains by enabling swift decision making based on quality, comprehensive and holistic data and visualization.



3D Visualization Techniques

eChhawani Project

In addition to the 14 major services being provided through e-Chhawani, SUVIDYA (Multilingual Cantt Board School Management Module) has also been launched in 06 regional languages i.e. Bengali, Gujarati, Hindi, Kannada, Marathi and Tamil in 191 schools, covering 52 Cantonment Boards in 15 States benefitting 75,085 students. The School Management System has been developed by DGDE in-house with some technical support of external consultants to provide online services like Online Admission, Issuance of Transfer Certificate, Homework and Assignments, Grievance / Incident Reporting, Notification and Feedback and Suggestions etc.

BHOOMI RAKSHA (Encroachment Removal Module)

For efficient and effective monitoring of removal of encroachment from Defence land, the Directorate General Defence Estates (DGDE) has developed an Encroachment module under Real Time Record Management (RTRM) project to facilitate DEOs/CEOs to report encroachment cases to Estate Officers appointed under Public Premises (Eviction of Unauthorized Occupants) Act, 1971 who will be able to issue different notices and orders as per the said Act for eviction of Unauthorized Occupants. This will greatly assist all levels in initiating and monitoring timely action for removal of encroachment from Defence land.

SAINIK SCHOOLS SOCIETY

- **Setting up of 100 new Sainik Schools in partnership mode** -The Government has approved the initiative of setting up of 100 new Sainik Schools in partnership with NGO's/Private Schools/State Governments in a graded manner, starting from Class 6 onward. Under this initiative, Memorandum of Agreement (MoA) has been signed by Sainik School Society with 19 schools. As on March 2023,18 NGOs/Private/State Government Schools have signed Memorandum of Agreement (MoA) with the Sainik Schools Society. As on March, 2023 1048 (Boys 912 & Girls 136)students got admitted in these schools.
- **All India Sainik School Entrance Examination (AISSEE)-2023:** - All India Sainik School Entrance Examination (AISSEE)-2023 has been successfully conducted by National Testing Agency (NTA) on 8th January 2023 for admission to Class VI and Class IX in 33 Sainik Schools across the country for the academic year 2023-24. Admission to the Sainik School stream of Class VI of the 18 New Sainik Schools approved by MoD in Partnership mode, for the academic year 2023-24 were also be done through AISSEE 2023. The result of AISSEE-2023 has declared on 24th Feb 2023.
- **Signing of Memorandum of Agreement (MoA):-** A long term pending issue of signing of Memorandum of Agreement between Sainik Schools Society, MoD and Govt of Kerala for existing Sainik School, Kazhakootam has been signed on 23 Feb 2023.



INTERNATIONAL YOGA DAY BEING CELEBRATED



INTER-HOUSE AQUATICS CHAMPIONSHIP FOR GIRL CADETS



RANGE FIRING PRACTICE FOR SAINIK SCHOOL NCC CADETS

MANOHAR PARRIKAR INSTITUTE FOR DEFENCE STUDIES AND ANALYSES

1. **12** Bilateral interactions / talks involving participation by 9 countries.
2. **06** Roundtable / Book discussions held with distinguished delegates from 5 countries.
3. **11** Training / Orientation Programme involving ITBP – 04, BSF – 05, SSIFS – 01, Defence Attaches – 01.
4. **04** Seminars / Webinars conducted, prominent ones being 'The African Union@ 20: Addressing Peace and Security Challenges', 'India and the Arctic: Prospects for Partnership' and 'International Cooperation for Chemical Disarmament: Combating Chemical Terrorism'.



Gen. Anil Chauhan, PVSM, UYSM, AVSM, SM, VSM, Chief of Defence Staff, delivering the 13th Y.B. Chavan Memorial Lecture



21st Asian Security Conference - Shri Amitabh Kant, G20 Sherpa, delivering Inaugural Address

MILITARY ENGINEERING SERVICES (MES)

Northern Borders

Engineer Task Forces (ETFs) continued to work relentlessly for construction of operational infrastructure in Eastern Ladakh to meet the operational requirement of deployed formations. Habitat for accretion forces has been completed on a war footing using modern state of the art technology, which has helped in establishing moral ascendancy in the Northern borders.



Sustained efforts are being made to improve mobility of own troops with construction of operational tracks in forward areas along Northern Borders. Task Forces from Engineer Units have worked in mission mode and have overcome numerous terrain and weather challenges to provide required impetus for maintaining pace of construction. **Recently inducted new generation plant equipment such as Heavy Excavators, Spider Excavators and Light Weight Crawler Rock Drills were gainfully employed to expedite the progress.**



Employment of New Generation Equipment

Technology Infusion

Induction of 5m, 10m and Modular and Mountain Foot Bridges. The bridge requirements along Western Borders has been completely addressed by induction of 5 m and 10 m Short Span Bridges. Modular Bridge and Mountain Foot Bridge are also likely to be inducted shortly.

3D Printing. Corps of Engineers is progressing leaps and bounds in harnessing 3D Printing technology. Both along Northern and Western Borders, 3D printed technology has been incorporated in undertaking construction of permanent defences and habitat for troops.



3D Printed PD Trials at Depsang La

Green Energy Initiatives

Solar Hybrid Power Plants. Solar Hybrid plants have been commissioned along the northern borders which utilise both solar and wind energy to generate power.



NATIONAL DEFENCE COLLEGE (NDC)

The National Defence College is India's apex institution of learning for the study and practice of national security and strategy and is a crucible of strategic leadership. It is dedicated to the intellectual development and strategic enculturation of select senior officers of the armed forces and civil services of India as also of the participants from friendly foreign countries. Established in 1960, NDC has over the years earned a reputation for excellence and gained world renown.

SCHOOL OF FOREIGN LANGUAGES (SFL)

SFL is an eminent foreign language institution under administrative and functional control of HQ IDS, Ministry of Defence. It has been the pioneer in foreign language teaching in India since 1948. The school imparts training in following foreign languages to personnel of the three Services of the Indian Armed Forces and CAPFs: Foreign languages in which training is accorded on specific request of Ministry of External Affairs, SFL conducted written and oral tests of foreign language candidates in all UN and Japanese Languages under Atal Bhasanter Yojana (ABY).

DIRECTORATE OF PUBLIC RELATIONS (DPR)

Directorate of Public Relations (DPR) is the publicity wing of Ministry of Defence (MoD) that disseminates information to the media and public about important events, programmes, achievements and policy decisions of the Ministry, Armed Forces, Inter-Service Organisations and Defence Public Sector Undertakings (DPSUs). It regularly facilitates media interaction with the leadership, senior officials of the Ministry and officers of the Armed Forces through interviews, press conferences and press tours. The headquarters of the Directorate is situated at South Block in New Delhi. There are 25 regional and branch offices across the country under its command.

The Directorate publishes a fortnightly journal 'SainikSamachar' in 13 languages for the serving Armed Forces personnel, ex-servicemen and the general public. The website of Sainik Samachar (sainiksamachar.nic.in) has been revamped to make it user-friendly. Broadcasting Section of the Directorate produces radio programmes that are broadcast on All India Radio, for the Armed Forces personnel. The Photo Division of DPR provides photo coverage to all the events related to MoD and the Armed Forces. A dedicated Social Media Cell has been established to reach wide spectrum of people and as on date DPR, MoD has about one million followers across all social media platforms. Important events of MoD are live streamed through platforms such as Twitter, YouTube, Koo etc. During the period from 01 Apr 2022 to 01 Mar 2023, DPR (MoD) issued 888 Press Releases, 4087 Photo Releases, 3,584 Tweets, 1086 Facebook Posts and 1074 Instagram posts. Furthermore, from 01 Apr 22 to 31 Dec 2022, total 232 Videos have been uploaded in YouTube channel of MoD.

The Directorate conducted Defence Correspondents' Course (DCC) for Media personnel from 22 August, 2022 to 18 September, 2022 to enhance their knowledge about defence matters. Twenty-nine journalists including nine women drawn from all over the country attended the course conducted in different establishments of Army, Navy and Air Force. For media persons from North Eastern region, a new DCC course has been started from this year. It was held from 13 to 21 September, 2022 in which eleven journalists participated.

DEFENCE COOPERATION WITH FOREIGN COUNTRIES

Defence cooperation between India and various foreign countries deepened and widened during the year with various bilateral and multilateral dialogues, exchanges and visits. The whole gamut of issues of defence cooperation were taken forward in a planned and structured manner with various countries. The major highlights of defence cooperation between India and other foreign countries are given in the succeeding Paras.

IMPORTANT EVENTS BETWEEN APRIL 2022-MARCH 2023

ASEAN DEFENCE MINISTERS' (ADMM) PLUS MEET

The ADMM-Plus is a significant milestone in the evolving security architecture in the Asia Pacific and its meeting is held annually. It is a platform for ASEAN and its eight Dialogue Partners Australia, China, India, Japan, New Zealand, Republic of Korea, Russia and the United States (collectively referred to as the "Plus Countries"), to strengthen security and defence cooperation for peace, stability, and development in the region. Inaugural ADMM-Plus was convened in Hanoi, Vietnam on 12 October 2010. Hon'ble Raksha Mantri led delegation attended the ASEAN Defence Ministers Plus Meeting & India-ASEAN Defence Ministers Meeting during his visit to Cambodia on 22-23 November 2022. During the visit, he held bilateral meetings with the US Secretary of Defence Mr Lloyd Austin and Deputy Prime Minister and Minister of National Defence of Cambodia.

ADMM-Plus is supported by ASEAN Defence Senior Officials' Meeting (ADSOM). The ADSOM is assisted by 07 Expert Working Groups (EWGs) of cooperation namely Maritime Security (MS), Counter Terrorism (CT), Humanitarian Assistance and Disaster Management (HADRM), Peacekeeping Operations (PKO), Military Medicine (MM), Humanitarian Mine Action (HMA) and Cyber Security (CT). Indonesia is the current chair of ADMM and ADSOM.



The maiden India-ASEAN Defence Ministers' Meeting was held today at Siem Reap, Cambodia to commemorate the 30th Anniversary of India-ASEAN relations in 2022, which has also been designated as 'ASEAN-India Friendship Year'

Shanghai Cooperation Organisation (SCO)

India hosted the 15th meeting of Expert Working Group of the Council of Ministers of Defence of the SCO Member-States in New Delhi on 16th November 2022. Defence cooperation issues and activities within the framework of Council of Defence Ministers of the SCO member states were discussed during the meeting. The meeting was chaired by ACIDS Int-C, HQ IDS from the Indian Side.



Raksha Mantri Shri Rajnath Singh with Shanghai Cooperation Organisation (SCO) Defence Ministers, in New Delhi on April 28, 2023.

India Africa Defence Dialogue (IADD)

2nd India Africa Defence Dialogue (IADD) was conducted on 18th October 2022 at Gandhinagar, Gujarat. Hon'ble Raksha Mantri had extended invite to his counterpart in 52 nations of Africa to attend the IADD 2022. The IADD was conducted on 18th October 2022 at Gandhinagar, Gujarat. Representatives from 45 countries including 19 Ministers and 7 Secretary level officers attended the IADD. Gandhinagar Declaration was adopted in the Dialogue. During the IADD, Special Day Cover was released and a book titled 'India-Africa Defence Cooperation – Opportunities and Challenges' was launched. A Brochure on 'India-Africa Security Fellowship Programme' was also released.

The bilateral meetings of Hon'ble RM with his counterpart from the following countries took place on side lines of Defexpo-22 - Mauritania, Central African Republic, Gambia, Ethiopia, Cabo Verde, Ghana, Maldives, Rwanda, Angola, South Africa, Madagascar, Mozambique and Democratic Republic of Congo.



India-Africa Defence Dialogue held on the sidelines of Def Expo2022 in Gandhinagar, Gujarat.

USA

Hon'ble Raksha Mantri led delegation visited Washington D.C. for holding the 4th edition of India-US 2+2 Ministerial Dialogue in USA from 10-14th April 2022. A comprehensive Joint Statement was issued after the Ministerial 2+2. He also visited HQ INDOPACOM at Hawaii. Later, he interacted with the Indian community in San Francisco Bay Area. India-US Defence cooperation issues were discussed in the meeting.



*India-US 2+2 Ministerial Meeting in Washington DC.
Shared assessments of the situation in our neighbourhood and Indian Ocean Region discussed*

UK

Hon'ble Raksha Mantri met with UK Minister for Defence Procurement Mr. Jeremy Quin and UK CDS on 26th April 2022. The Minister and CDS paid a courtesy call and reiterated the request for Hon'ble RM to visit UK. Later, UK Minister and UK CDS had a meeting with Defence Secretary on the same day. Bilateral Defence Cooperation issues were discussed during the meeting.

Defence Secretary Co-chaired the India-UK Defence Consultative Group (DCG) meeting in London from 03 to 05 Oct 2022. The following documents/agreements were signed during the visit:

- (a) Memorandum of Arrangement (MoA) between the Ministry of Defence of the Republic of India and the Ministry of Defence of the United Kingdom regarding Logistics Exchange.
- (b) India-UK Technical Arrangement (TA) between Navies on Exchange of Classified Maritime Information.
- (c) Terms of Reference (ToR) for Joint Working Group (JWG) on Electric Propulsion Capability Partnership.

France

4th India-France Annual Defence Dialogue was held on 28 Nov 2022 between Hon'ble Raksha Mantri and H.E. Mr. Sebastien Lecornu, Minister of Armed Forces of the French Republic. A wide range of bilateral regional, Defence and defence industrial cooperation issues were discussed in the dialogue.



The Union Minister for Defence, Shri Rajnath Singh with the Minister of Armed Forces of the French Republic, Mr. Sebastien Lecornu ahead of the India-France Annual Defence Dialogue, in New Delhi on November 28, 2022.

Israel

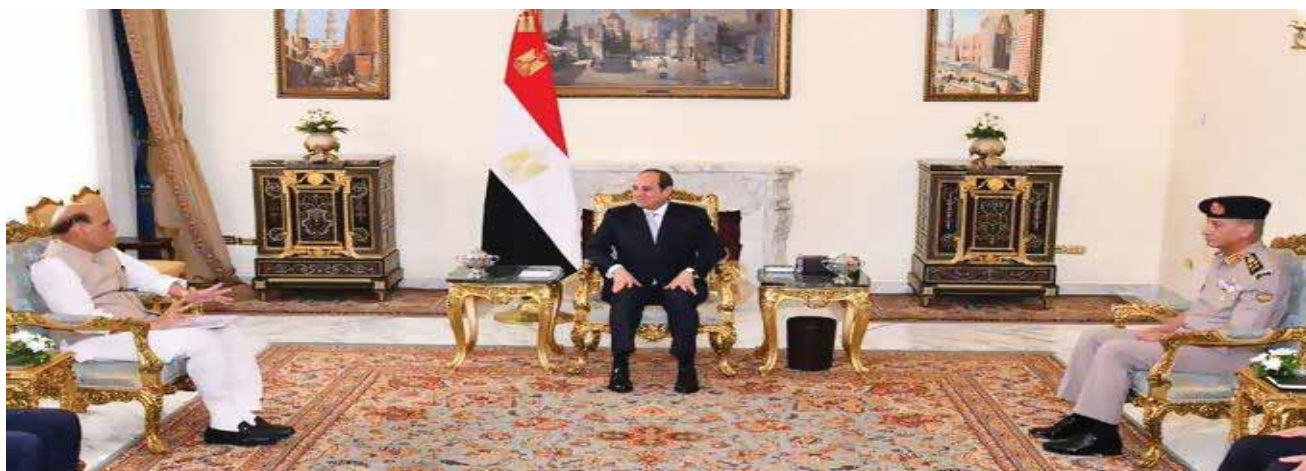
Hon'ble Raksha Mantri held a bilateral meeting with Defence Minister of Israel Mr. Benjamin Gantz on 2nd June 2022 at New Delhi. A wide range of issues concerning bilateral, regional and defence industrial cooperation were discussed during the meeting including ways to increase cooperation in all domains with focus on Research & Development in future technologies. India-Israel Vision on Defence Cooperation was adopted to further strengthen existing framework between the two countries.



The Union Minister for Defence, Shri Rajnath Singh at the bilateral meeting with the Defence Minister of Israel, Mr. Benjamin Gantz, in New Delhi on June 02, 2022.

Egypt

Hon'ble Raksha Mantri led delegation visited Egypt from 19-20 September 2022. During the visit, he called on the President of Arab Republic of Egypt H.E. Abdel Fattah Al-Sisi. Both leaders agreed to further develop military cooperation and focus on Joint Training, Defence Coproduction and maintenance of equipment. A bilateral talk between Raksha Mantri and General Mohamed Zaki Egyptian Minister of Defence and Defence Production was also held on 19th September 2022. During the meeting, both sides discussed steps to strengthen defence ties and reached a consensus to conduct of Joint Exercise and exchange of personnel for training, especially in the field of counter insurgency. The two ministers also agreed to identify proposals for expanding cooperation between the defence industries of India and Egypt in a time-bound Manner. MoU between the Ministry of Defence of the Republic of India and the Ministry of Defence of the Arab Republic of Egypt on Co-operation in the field of Defence was signed at Cairo on 19th September 2022 during the visit.



HON'BLE RM with President of Egypt Mr Abdel Fattah El-Sisi in Cairo

Japan

- Chief of Air Staff (CAS) led delegation visited Japan from 17 May to 20 May 2022.
- Hon'ble Raksha Mantri led delegation visited Japan from 07 to 10 September 2022 for 2+2 Ministerial dialogue with the Japanese counterparts. A bilateral meeting between India and Japan in Tokyo was held on 08th Sep 2022. The Hon'ble Raksha Mantri along with Hon'ble External Affairs Minister called on the Prime Minister of Japan during the visit.



The Union Minister for Defence, Shri Rajnath Singh, the Union Minister for External Affairs, Dr. Subrahmanyam Jaishankar, the Minister of Defence, Japan, Mr. Yasukazu Hamada and the Minister of Foreign Affairs, Mr. Yoshimasa Hayashi at the Joint Press Statement after the India-Japan 2+2 Ministerial Dialogue, in Tokyo on September 08, 2022.

Australia

Deputy Prime Minister and Defence Minister of Australia Mr. Richard Marles visited India from 20-23 June 2022 and called on the Hon'ble Raksha Mantri. During the call on both the minister's committed for further expanding defence cooperation between India and Australia.

Chief of Naval Staff visited Australia from 26 Sep to 28 Oct 2022.

Indian Navy participated with the Australian Defence Force (ADF) in their Indo Pacific Endeavour (IPE)-22 during the port call of Australian ships at Visakhapatnam from 30 Oct to 02 Nov 2022. (IPE-22 is an international engagement which aims to strengthen Australia's Whole of Government Commitment and partnership in the Indo-Pacific Region. It consists of a 'PORT CALL' with standard harbour engagements of courtesy calls, SME interactions, reciprocal ship visits, PASSEX activity, etc.)

Bangladesh

The 4th Annual Defence Dialogue with Bangladesh was held at New Delhi in August 2022.

Cyprus

MoU on Defence and Military Cooperation with Cyprus was signed on 29th December 2022 by the Hon'ble External Affairs Minister during his visit to Cyprus from 29 to 31 Dec 2022.

Mongolia

Hon'ble Raksha Mantri led delegation visited Mongolia from 05-07 September 2022. During the visit, Cyber Security Training Centre (CSTC) setup by India at Mongolia was inaugurated. The foundation stone for India-Mongolia Friendship School was laid down by Hon'ble Raksha Mantri.



The Union Minister for Defence, Shri Rajnath Singh the Minister of Defence, Mongolia Lt Gen G Saikhanbayar inaugurated the Cyber Security Training Centre, built with assistance from Government of India, at National Defence University in Ulaanbaatar, Mongolia on September 06, 2022.

Nepal

Chief of Army Staff (CoAS) visited Nepal in Sep 2022 and was conferred with the rank of Honorary rank of General of the Nepal Army.

New Zealand

India and New Zealand signed the Technical Agreement on White Shipping Information Exchange during the visit of the Chief of Naval Staff (CNS) to New Zealand in October 2022.

Sri Lanka

India and Sri Lanka signed multiple MoUs towards capacity building of the Sri Lankan Armed Forces which included provisioning of a 4000 Ton Floating Dock on, leasing of an IN Dornier to Sri Lankan Air Force and installation of Maritime Rescue Coordination Centre for Sri Lankan Navy.

Vietnam

Hon'ble Raksha Mantri led delegation visited Vietnam from 07 to 10 June 2022. During the visit, an MoU on 'Mutual Logistics Support (MLS) and 'India-Vietnam Joint Vision Statement (JVS) on Defence Cooperation towards 2030' was signed between both the countries.



*Raksha Mantri Shri Rajnath Singh with General Phan Van Giang, the Defence Minister of Vietnam.
Both ministers renewed interactions on expanding bilateral cooperation*

Joint Exercises

- INSV Tarini participated in 50th edition of Cape to Rio Race 2023, which was undertaken by the Indian Navy comprising a crew of five officers including two women officers.



Indian Naval Sailing Vessel Tarini returned to India after a 6 month long transoceanic intercontinental expedition that commenced at Goa on 17 Nov 22 & completed at the same venue on 24 May 23.

- 11th edition of Biennial Multilateral Exercise MILAN was conducted at Visakhapatnam from 24 Feb to 4 March 2022. Sea Phase of the exercise was conducted from 01 to 04 March 22, witnessed participation by 23 ships, seven aircraft and one submarine, which included units from 13 Countries.
- The 3rd edition of Exercise DHARMA GUARDIAN, bilateral exercise between Indian Army and Japan Ground Self Defence Force (JGSDF) was conducted from 28 Feb to 15 March 2022 at Belgaum, Karnataka.



Joint Military Exercise Dharma Guardian at Camp Imazu, Japan. During the 14 day training, troops from both Armies shared expertise & experiences in Counter Terrorism operations in urban terrain.

- INS Karmuk alongwith a Dornier aircraft participated in the Indo-Thai Coordinated Patrol (CORPAT) with Royal Thai Navy HTMS Saiburi from 05 to 06 May 2022 in the Andaman Sea.
- Exercise 'PITCH BLACK', a biennial multi-lateral exercise hosted by the Australian Air Force in Aug-Sep 2022 wherein Indian Air Force participated. The 2022 edition of the Exercise was participated by Canada, France, Germany, Indonesia, Netherlands, New Zealand, Thailand, Malaysia and USA apart from India and Australia.



The contingent of Indian Air Force at Darwin, Australia in a multi-national exercise - Ex Pitch Black 2022

- 6th edition of Japan India Maritime Exercise 2022 (JIMEX 22) was conducted in the Bay of Bengal in Sep 2022. This edition marks the 10th anniversary of JIMEX, which began in Japan in 2012.



The sixth edition of Japan India Maritime Exercise 2022 (JIMEX 22) hosted by Indian Navy in the Bay of Bengal on 11 Sep. The Indian Navy was represented by three indigenously designed and built warships

- 7th edition of the bilateral air exercise between the Indian Air Force (IAF) and the French Air and Space Force (FASF) was held at Jodhpur on 12th Nov 2022.
- 12th edition of Exercise Agni Warrior, a bilateral exercise between the Singapore & Indian Army commenced on 13th November 2022 and concluded at Field Firing Ranges, Devlali (Maharashtra) on 30th November 2022.
- Exercise AUSTRAHIND, a special Forces Platoon level bilateral exercise between India and Australia was conducted from 28 Nov to 11 Dec 2022.
- 39th edition of India-Indonesia Coordinated Patrol (IN-INDO CORPAT) between the Indian Navy and the Indonesian Navy was conducted from 08-19 December 2022.
- 6th edition of Indo-Kazakhstan joint training exercise “KAZIND-22” was conducted from 15 to 28 December 2022.
- 16th edition of Indo-Nepal joint training Exercise “SURYAKIRAN-XVI” between India and Nepal was conducted at Nepal Army Battle School, Salijhandi (Nepal) from 16 to 29 December 2022.
- Indian Navy participated in Exercise KAKADU, a joint biennial multilateral naval exercise hosted by the Royal Australian Navy (RAN) and supported Royal Australian Air Force(RAF) from 12-25 Sep 2022 off Darwin.
- India and Nepal conducted the 11th edition of exercise Suryakiran in Nepal in Dec 2022. As part of capability building India supplied defence stores which included Mine Protected Vehicles, simulators and medical stores.



Department of Defence Production



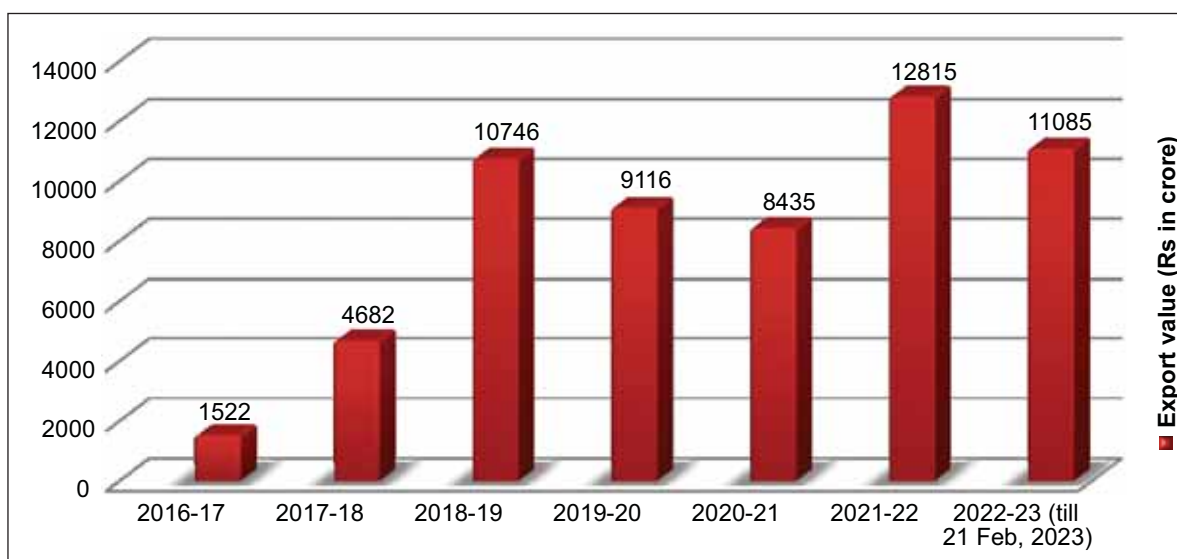
रक्षा मंत्रालय
MINISTRY OF
DEFENCE

Department of Defence Production

The Department of Defence Production (DDP) was set up in November 1962 with the objective of developing a comprehensive production infrastructure to produce the weapons/systems/platforms/equipments required for defence. Over the years, the Department has established wide ranging production facilities for various defence equipment through the Defence Public Sector Undertakings (DPSUs) and also facilitated private defence industry. The products being manufactured by these units include arms and ammunitions, tanks, armoured vehicles, heavy vehicles, fighter and trainer aircrafts and helicopters, warships, submarines, missiles, all type of naval vessels , ammunition, electronic equipment, earth moving equipment, special alloys and special purpose steels.

1. Export Import Profile of Indian Defence Industry:

The important defence equipment exported during last 05 years include Weapon Simulators, Tear Gas Launcher, Torpedo Loading Mechanism, Alarm Monitoring & Control, Night Vision Monocular & Binocular, Light Weight Torpedo & Fire Control Systems, Armoured Protection Vehicle, Weapons Locating Radar, HF Radio, Coastal Surveillance Radar etc. The details of export performance for last seven financial years is as under:



In order to boost defence exports, webinars are being organized with Friendly Foreign Countries (FFCs) under the aegis of DDP, MoD through Industry Associations. Total Thirteen (13) webinars have been organised during the financial year 2022-23.

2. Defence Indigenisation:

- (i) To give fillip to the ongoing Indigenisation efforts, an indigenization portal namely srijandefence.gov.in has been launched for DPSUs/Services with an industry interface to provide development support to MSMEs/Startups/Industry for import substitution. So far, 5852 items worth Rs. 3931 crores have been indigenised.
- (ii) On August 28, 2022, DDP/MoD notified 3rd Positive Indigenisation List of 780 strategically important Line Replacement Units (LRUs)/ Sub-systems/ components with an indicative timeline for indigenisation.

Further, 18 Major platforms have been announced by MoD for industry led Design and Development under various routes.

- (iii) The 'Make' Procedure of capital procurement which aim for indigenous development & manufacture of defence equipment has been simplified. As on 31st Dec 2022, under Make I, 13 Projects of tri -Services has been accorded Approval in Principle and 1 Procurement contract has been expedited. Under Make II, 88 Projects of tri-Services have been accorded Approval-In-Principle and 36 Project Sanction Orders have been issued. Under Make III, 3 Projects of tri-Services have been accorded Approval-In-Principle.
 - (iv) Innovations for Defence Excellence, managed by Defence Innovation Organization (iDEX-DIO) is proactively pursuing multiple objectives including seeding of defence enterprises, self-sufficiency and indigenization in defence production thus leading to better defence preparedness, shortened procurement cycle, reduction in costs, reverse brain drain, creation of jobs, etc. As a result, 329 startups/ MSMEs have been engaged and 147 contracts have been signed as on 31st December 2022.
3. **Grant of Green Channel Certification for Procurement of Defence Stores & Spares.** MoD has issued a policy on Green Channel Status vide order dated 24 Mar 2017 for procurement of defence stores & spares. 25 numbers of firms have been granted Green Channel Status to supply main equipment and spares manufactured as on 31st December 2022.



BDL received Green Channel Certificate for Launchers Spares

4. **Developing Artificial Intelligence based capabilities:** Department of Defence Production constituted a Task Force in February 2018 under the Chairmanship of Shri N. Chandrasekaran, Chairman Tata Sons to study the strategic implications of Artificial Intelligence in National Security and Defence. Based on the recommendations of the Task Force, AI roadmap for Defence PSUs and OFB has been finalized for creating AI based products/technologies relevant to their platforms and earmark appropriate funds for the same. Total 106 AI enabled projects have been identified, out of which 40 Nos. AI products have already been developed.

Hon'ble Raksha Mantri Shri Rajnath Singh inaugurated the first ever 'Artificial Intelligence in Defence' (AiDef) symposium and exhibition, organised by Department of Defence Production, Ministry of Defence, in New Delhi on July 11, 2022. The event featured an exhibition to showcase the cutting edge AI-enabled solutions developed by the Services, DRDO, DPSUs, Private Industry and start-ups & innovators and launch of AI products for the market.



AI PROJECT OPERATOR FATIGUE MONITORING SYSTEM 'SATARK' BEING LAUNCHED BY HONOURBLE RAKSHA MANTRI DURING AiDef

In this mega event 75 newly-developed AI products/technologies, having applications in defence, were launched. The products are in the domains of automation/unmanned/robotics systems, cyber security, human behaviour analysis, intelligent monitoring system, logistics and supply chain management, speech/voice analysis and Command, Control, Communication, Computer & Intelligence, Surveillance & Reconnaissance (C4ISR) systems and Operational Data Analytics. On this occasion a book was also released featuring some of stupendous products and stellar achievements in AI based technologies to showcase grounds already covered by our organizations and the Services in the arena of AI to boost a strong self-defence.

5. **Raksha Mantri Award for Excellence in Defence and Aerospace Sector:** A total of 22 Raksha Mantri's Award for Excellence in Defence & Aerospace Sector in various dimensions of Defence & Aerospace Sector were given under various categories viz, Indigenisation / Import substitution, Innovation/Technological Breakthrough and Exports. Out of these 22 awards, 13 were won by Private Industries and the balance by the DPSUs/PSUs.

6. Major activities by Defence Public Sector Undertakings (DPSUs):

(I) Garden Reach Shipbuilders & Engineers Limited (GRSE):



Green Channel Certification by MoD for Supply of Portable Steel Bridges (Bailey Type) to Indian Army



ICGS Kamla, FPV Delivered on 31 Dec 22

(II) Hindustan Shipyard Limited (HSL) : Two Diving Support Vessels, indigenously designed concurrently launched for the first time by an Indian yard (HSL) in the presence of Admiral R Hari Kumar, PVSM, AVSM, VSM, ADC, Chief of the Naval Staff Indian Navy.



- (III) **Mazagon Dock Shipbuilders Limited (MDL):** MDL is presently constructing Missile Destroyers, Stealth Frigates and Scorpene Submarines in order to achieve self-reliance in warship production for the Indian Navy.



Delivery of Fifth Scorpene class Submarine 'INS Vagir' on 20 Dec 2022



Launching of Sixth Scorpene class Submarine 'INS Vaghsheer' on 20 Apr 2022



Launching of INS Surat on 17 May 22

- (IV) **Munitions India Limited (MIL):** MIL has successfully developed 40 mm UBGL ammunition, 500 Kg General Purpose Bomb and 76/62 SRGM HEDA Ammunition. Under Mission Raksha Gyan Shakti, MIL has filed 311 nos. of IP till date, of which 48 nos have been granted.

- (V) **India Optel Limited (IOL):** IOL has indigenously designed and developed Day Telescopic Sight for Assault Rifles. It has also developed Driver Night Sights for Tanks which is a first in terms of technology of Fusion Imaging.

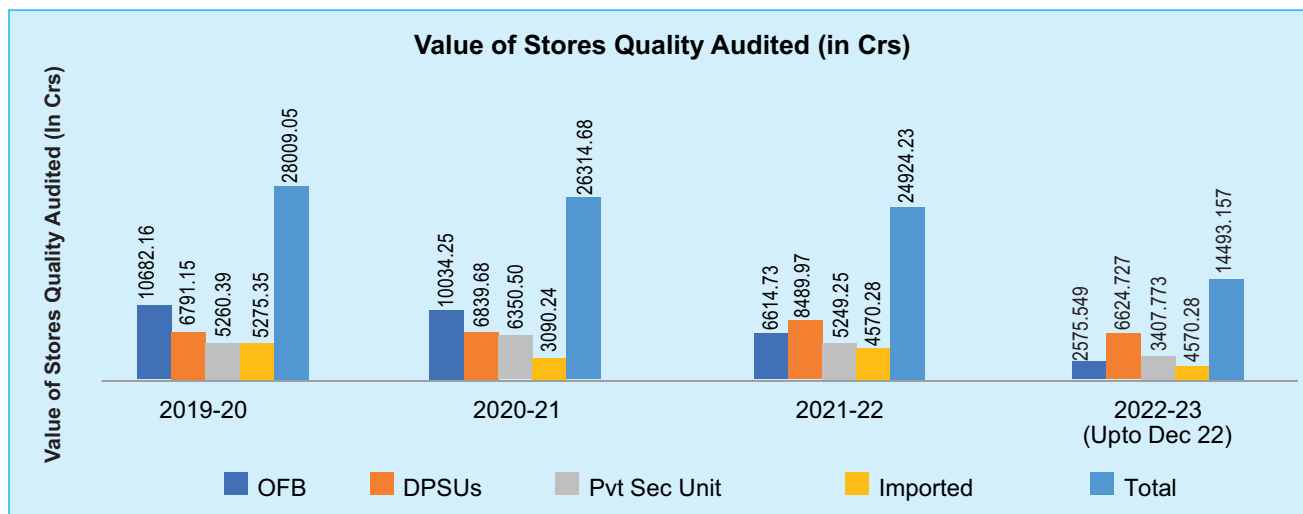


Day Telescopic Sight for Assault Rifles



Fusion technology – Driver's Night Sight

- (7) **Quality Assurance of Stores under Directorate General of Quality Assurance (DGQA):** Manufacturer wise value of stores (Rs in Crore) Quality Audited during last four financial years are as under: -



- (8) **Directorate General of Aeronautical Quality Assurance (DGAQA) activities:** Quality Assurance coverage has been provided to aviation and allied stores amounting to 15979.9 (value of stores) in the current financial year 2022-23 (upto Dec 2022).

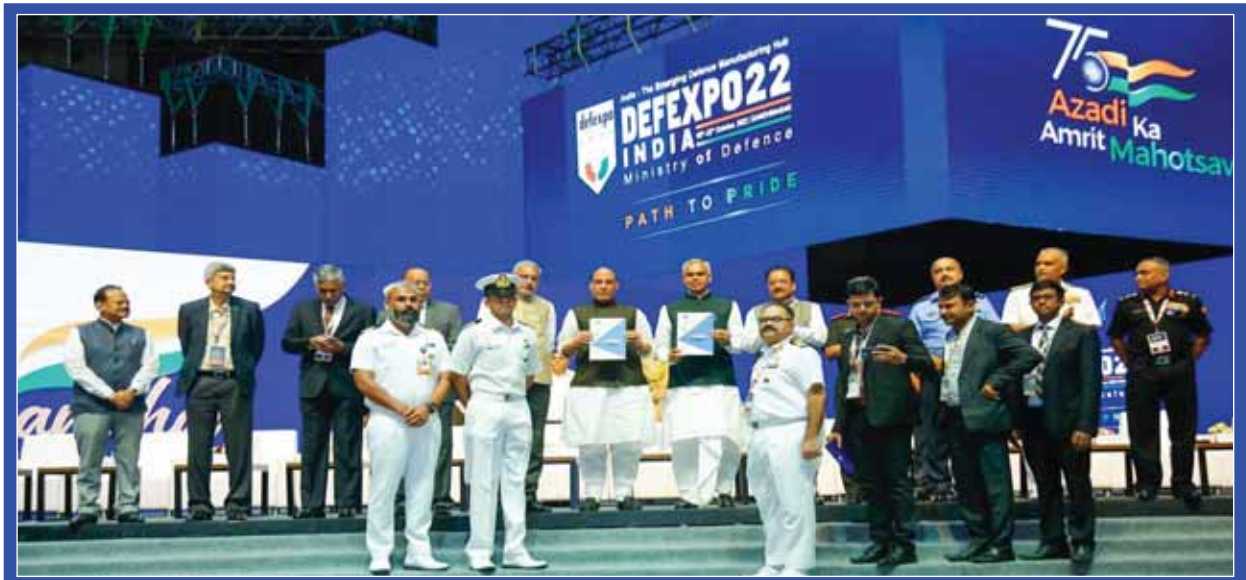
- (9) **Defence Exhibition Organization (DEO):**

- (i) **DEFEXPO-2022.** The 12th edition of DefExpo-2022 at Gandhinagar, Gujarat was held from 18th- 22nd October 2022. Indian companies, Indian subsidiaries of Foreign OEMs, Division of company registered in India, Exhibitor having Joint Venture with an Indian company were considered as Indian participants. The theme of the DefExpo-22 was 'Path to Pride'.

The event was conducted in a first ever four venue format in the Largest ever total area of 1+ Lakh sqm (previous edition being 76000sqm) with the Exhibition at Helipad Exhibition Center (HEC), Curtain Raiser, Inaugural, Manthan, Invest for Defence, Bandhan and Seminars at Mahatma Mandir and Convention Center, Live Demo at Sabarmati River front, Ahmedabad and Ships visits at Porbandar.



The participation of 1340 exhibitors in such a short notice period being the highest ever was achieved through proactive engagement of the Ministry of Defence. A total of 80 Friendly Foreign countries attended with 32 Foreign Ministers gracing DefExpo22.



DefExpo-2022 has proved to be a potent platform towards enhancing bilateral cooperation through dialogue between India and African countries at the 2nd edition of the India Africa Defence Dialogue. The 2nd Indian Ocean Region plus (IOR+) Conclave at the Defence Minister level has also led to sustained interactions between participating countries thus reiterating the Hon'ble Prime Minister's vision for Security and Growth for All in the Region (SAGAR).

The marquee Bandhan event which summarises the Business at DefExpo22 has also been an unprecedented success with the highest ever 451 MoUs (previous DefExpo2020 was 201 MoUs) aggregating to an approximate business of Rs 1.5 lakh Crs emanating out of the engagement at DefExpo22.

- (ii) **AERO INDIA-23** : 14th edition of Aero India-2023 was held from 13th to 17th February 2023 at Air Force Station, Yelahanka, Bengaluru. The theme of Aero India-2023 is “The Runway to a Billion Opportunities” and aims at forging partnerships between Foreign and Indian firms as also between Indian firms which translates to discovery of newer avenues in the global value chain in-turn fast-tracking the indigenization process. The unprecedented response to this edition with 715+ exhibitors, the highest ever since its inception in 1996, further endorses the delivery of both the biennial exhibitions of the Department of Defence Production, Ministry of Defence in furthering our A&D Business (as also global interest, these shows are generalizing).



Department of Military Affairs



रक्षा मंत्रालय
MINISTRY OF
DEFENCE

INDIAN ARMY

General

Myriad, complex and multitude nature of security threats notwithstanding, the preceding year from an Indian Army perspective has been extremely satisfying. Relentless challenges along our Northern Borders together with Peoples Liberation Army (PLA)'s forward posturing and enhanced presence in the training areas has become the new normal and necessitated consistent monitoring. However, proactive, deliberate and comprehensive measures by our security forces have ensured peace and tranquility along our Borders. Security situation along the Western borders has remained relatively stable while the Internal Security situation in the State of Jammu and Kashmir has witnessed a conspicuous improvement, this being epitomised by reduced terror related incidents. Distinct improvement in the North Eastern States is authenticated by conduct of incident free elections in Nagaland. Hosting the prestigious mega sports event, The Durand Cup, in Manipur for the first time in the history of North East has been an extraordinary achievement seen in this light.

The Indian Army has continued its consistent journey on the trajectory of modernisation and induction of state of the art and technologically sophisticated weapon systems and equipment in sync with the Hon'ble Prime Minister's Atmanirbhar Bharat vision. The Indian Army has also adopted a focused transformation drive including optimisation and improving the teeth to tail ratio. The Agnipath Scheme is being manifested with adequate measures to optimally train and integrate the Agniveers into our existing rank and file.

The Indian Army will be observing 2023 as the Year of Transformation with concerted progression on five key domains of Force Restructuring & Optimisation, Mordernisation & Technology Infusion, Systems, Processes & Functions, Human Resource Management, Jointness & Integration.

Infrastructure Development. Infrastructure development activities are being undertaken by with emphasis on achieving last mile connectivity in remote areas. Indian Army is pursuing holistic border area development in sync with civil administration and other agencies, which include development of border villages as part of the Vibrant Village Program and promotion of tourism.



SURFACING WORK AT DSDBO ROAD



ENERGY EFFICIENT HABITAT



CARBON NEUTRAL HABITAT

Modernisation of the Armed Forces

Integrated Capability Development System (ICADS). Keeping the 'Cabinet Committee on Security Mandate to CDS' for implementing the Integrated Capability Development Plan (ICDP), ICADS has been initiated under the aegis of Headquarters Integrated Defence Staff (HQ IDS). The ICADS process will ensure jointness and integration in the capability development planning process across the three Services. It aims to maximise resource optimisation and infuse the much needed jointness/ integration in tri-service planning/ procurement process. The ICADS process is progressing smoothly for preparing the ICDP: 2022-32.

Atmanirbhar Bharat: Make in India Initiatives

Hon'ble PM's call of Atmanirbhar Bharat has truly galvanised all sections of society. IA too is on course to create a self-reliant defence ecosystem under the Make in India initiative, jointly with the private industry, Micro, Small and Medium scale Enterprises, Academia and the Research and Development laboratories across the country. With its extensive range of equipment spanning a vast technological spread, it is a key entity in making the 'Make in India' pursuit a success. Indian Army is pursuing technological infusion into war fighting through a coordinated effort with the indigenous defence industry.

Indigenisation Through Directorate of Indigenisation (DoI).

- (a) **Long Term Indigenisation Plan (LTIP).** In order to reduce the dependency on foreign supply chains, DoI has formulated a dynamic LTIP 2021-25. LTIP includes 65 projects having a value of ₹ 2,852 Crore as import substitution.
- (b) **Items Indigenized during Financial Year (FY) 2021-22.** In FY 2021-22, DoI has indigenized 58 spare parts/sub-assembly/assembly resulting in an import substitution of ₹ 16.13 Crore and accrued a cost saving of ₹ 13.7 Crore through DoI Supply Orders only. This will further accrue year on year savings of ₹ 5 Crore (approximately).
- (c) **Supporting Research and Development and Initial Investment.** DoI has taken up project with Government institutes namely Indian Institute of Technology(IIT) Delhi wherein R&D is being funded by Indian Army. It has initiated collaboration with Industry as well as Academia. Similarly DRDO has also initiated an exclusive project for indigenization of ex-import items.

Army Design Bureau (ADB). Through Army Design Bureau, IA has initiated an extensive outreach program for Industry and Academia to highlight the modernization requirements of Indian Army through 'Make in India'. Three Make-I projects and 44 Make-II projects are being currently steered by Army Design Bureau. 21 Army Technology Board (ATB) projects are also being mentored with respect to requirements of the Army. The highlights of these initiatives by ADB are as under:-

- (a) Six Indian Army projects through Technology Development Fund (TDF) are being undertaken.
- (b) Program of 46 Design & Technology projects & 54 Technology Demonstrator (TD) projects in collaboration with DRDO is underway.
- (c) Establishment of two Regional Technology Nodes (RTN) at Pune and Bengaluru for closer interaction with Industry/ Academia/ Start-up ecosystem as also provide them continuous clarifications/guidance to retain focus during development stage.

- (d) Recognition of in-house developed products & technologies – four Copyrights, four Patents and five Design Registrations have been achieved.
- (e) A MoU with M/S BEL has been signed in March 2022 for research and development collaboration through Joint AI Incubation Hub (JAIH).
- (f) Drone Federation of India (DFI) has also signed a MoU on 08 August 2022 for collaborative work towards promoting research & development of drones and counter drone technology. Swarms and other niche capabilities in this field are showing promising progress.

National Logistics Policy (NLP)

Consequent to enunciation of NLP on 17 September 2022 an access to PM Gati Shakti Portal has been provided to Service Headquarters and Command Headquarters. The platform is being exploited to identify the upcoming infrastructure projects and dovetail military requirements for optimisation.

Infrastructure requirements of field formations are being incorporated in civil infrastructure projects by projecting to Logistics Division, Ministry of Commerce and Industry (MoCI). A total of 902 infrastructure requirements of Indian Army have been projected so far.

To workout various logistics requirements in contemporary and future, Logistics Seminar was held on 12 September 2022 at New Delhi. The Seminar was inaugurated by Shri Rajnath Singh, Hon'ble RM and attended by more than 250 Officers, Academicians, Industrialists, Corporates, Veterans and representatives of various ministries. The seminar was live streamed for the first time on Indian Army official YouTube handle for wider viewership.

Defence Cooperation with Friendly Foreign Countries (FFCs)

Defence Cooperation is a vital pillar of diplomatic relations with Friendly Foreign Countries. Indian Army has consistently increased its capacity to execute military cooperation activities to match the growing stature of our country amongst comity of nations. Presently, it engages with over 100 countries, conducts exercises with 45 countries, trains 3,362 students of 70 countries and is manning 16 Training Teams worldwide. The number of defence cooperation activities has nearly doubled over the last decade.

Joint Exercises. Joint Exercises are the flagship events of defence cooperation showcasing Indian Army's professional competence in various operational scenarios and provide opportunity to the participants to mutually learn best practices and rehearse interoperability during difficult tactical scenarios. Indian Army engages with 45 countries in 26 bilateral and five multilateral joint exercises. Scope of joint exercises are realistic and diversified including Counter Terrorist operations, Humanitarian Assistance & Disaster Relief, UN Peace Keeping, Humanitarian Mine Action, High Altitude operations, Desert Warfare, Urban Warfare and Jungle Warfare. The complexity of scope is increased by adding latest practices in war fighting and realistic situations like Drone Warfare, Counter UAS, Grey Zone Warfare, employment of Special Forces & Force Multipliers and conduct of operations in backdrop of a pandemic.



In 2022, India Army participated in 15 bilateral and two multilateral joint exercises to include two Battalion Level Exercises. The exercises were hosted in different parts of the country suiting the requirements of the theme and terrain. The locations of conduct included Bakloh (HP), Mahajan Firing Ranges (Rajasthan), Umroi (Meghalaya), Trivandrum (Kerala), Vizag (Andhra Pradesh), Belgaum (Karnataka), Auli (Uttarakhand) and Chaubatia (Uttarakhand).

Exercise YUDH ABHYAS at Auli with US was the first joint exercise with a FFC in High Altitude environment. An Indian Army contingent travelled to Russia, Vladivostok to participate in a Theater Level Multilateral Exercise VOSTOK. In addition, the participation levels in multilateral Exercise KHAAN QUEST in Mongolia and Exercise AUSTRALIA HIND with Australia were upgraded to an all arms contingent. Indian Army teams also participated in International Army Games hosted by Russia in August 2022.

Military Training. Training of foreign students in Indian Army Institutes provides maximum outreach and it leaves an indelible imprint on the foreign trainees. Indian Army trains about 3000 foreign students from 70 Friendly Foreign Countries in 200 types of courses at 40 Indian Army training institutes annually. Specialist training in High Altitude Warfare, Jungle Warfare, Information Technology (IT), Young Officers' Courses, Pre Commissioning Training, Women Officers Training are the most sought after avenues of training in India. Most of the training vacancies are subscribed by our neighbours and over years this training capacity has translated to training dependencies in these countries. On requests from foreign armies specialized tailor made cadres are being conducted at Indian Army Institutions. Indian Army students have subscribed to more than 90 vacancies on courses abroad most of which are in niche domains and emerging trends in war fighting viz Artificial Intelligence(AI),Cyber, Big data, Robotics etc.

Training Teams. 16 Indian Army Training Teams (including three new Training Teams in Mongolia, Kenya, and Nigeria) are deployed abroad for training of approximately 1500 personnel annually of countries in South Asia, Association of South East Asian Nations (ASEAN), Africa and Central Asia. Indian Army is receiving increasing requests from countries in neighborhood and Africa to increase its footprints in this domain. Indian Army has diversified the content delivered by the training teams from traditional areas of English and Information Technology to Counter Terrorism, Counter Intelligence and Counter Improvised Explosive Devices (CIED).



High Level Visits. Post COVID pandemic, 2022 witnessed resumption of defence cooperation activities including the High Level Visits. Chiefs of Armies of Saudi Arabia, South Africa, Australia, Maldives and Bhutan visited India. They visited Indian Army training institutes and Indian Defence industries and evinced interest to deepen defence cooperation. COAS visited Bhutan, Bangladesh, Nepal and France during the year. During his visit to Nepal, the COAS was conferred the honorary rank of Nepal Army General.



Assistance in Military Equipment & Medicine. Military stores and equipment amounting to approximately ₹ 25 Crores have been provided to countries in immediate and extended neighbourhood. These include weapons, ammunition, simulators, medical equipment, vehicles, parachutes, military animals, clothing and other stores. Training of the trainers in handling and maintenance of the equipment has also been conducted. Indian Army medics have a vast experience in management of battle casualties and in other ailments. Medical treatment in Indian Army hospitals has been extended to Nepal, Bangladesh, Bhutan and Maldives. Our specialists are invited by Friendly Foreign Countries to train their medics and impart treatment to patients. In 2022, three medical delegations travelled abroad for such cooperation.

Supporting Government's Projects. In order to support Make in India initiative, our defence manufacturers are being provided opportunities to showcase their equipment/ products during ongoing defence cooperation activities like the Joint Exercises and High Level Visits. This has been appreciated by foreign countries and defence manufacturers. In Joint Exercise YUDH ABHYAS with USA our defence manufacturers exhibited their products for employment in High Altitude. Indian Army is increasing participation of women officers and soldiers in defence cooperation activities.

Contribution to United Nations

United Nations Peacekeeping.

- (a) Indian Army continues to play a lead role in United Nations Peacekeeping Operations with its presence in 10 out of 14 United Nations missions worldwide. It has been one of the largest troops contributor for peacekeeping in the last seven decades with over 2,75,000 personnel having been deployed in various UN Missions. Indian Army has over 5,900 military personnel deployed on some of the most violent and volatile parts of the world under the UN Flag to include UN Missions in Democratic Republic of Congo, Sudan, Lebanon, South Sudan, Syria, Western Sahara, Central African Republic and Cyprus. In order to enhance our stature in UN, Indian Army has deployed an additional Infantry Battalion Group in United Nations Interim Security Force for Abyei (UNISFA) with indigenous equipment & vehicles for the first time in April 2022. Co-deployment of Kazakhstan contingent with our battalion in Lebanon is an unparalleled defence cooperation initiative.
- (b) India has also pledged one Infantry Battalion, one Engineer Company and one Signal Company in sync with UN peacekeeping requirements.
- (c) India is also committed towards increasing participation of women soldiers in UN peacekeeping missions. 106 Women peacekeepers were deployed by Indian Army on various UN Missions. Indian Army has deployed its largest women peacekeeping contingent in recent years.

- (d) MoD delegations visited UN Missions in Abeyi, Golan Heights and Democratic Republic of Congo to assess the on ground situation and to enhance operational efficiency of own troops deployed in the missions.
- (e) **VINBAX 2022.** Vietnam- India Bilateral (UN) Army Exercise was conducted at Chandimandir with primary focus on deployment of Engineer and Medical teams as part UN Peacekeeping Force in August 2022.



Deployment of Indian Motorised Infantry Battalion in UNISFA

Territorial Army (TA)

Counter Insurgency & Internal Security. Operationally TA units continue to play a crucial role in combatting terrorism & ensuring minimal turbulence to Internal Security. Their operational contribution has resulted in neutralising terrorists, recovering arms & ammunition, relieving of Army units from static duties and ensuring logistics support to units and formations deployed along Northern Borders.

Development/ Restoration of Infrastructure. TA has deployed troops for domination and executing close protection tasks, ensuring incident-free secure environment required for unhindered work on important infrastructure projects. Notable projects are as under: -

- (a) New Railway Mega Project in North-East. Infantry TA units/ subunits deployed along 111 km insurgency prone stretch in Manipur for securing the New Railway Mega Project (Jiribam-Tupul-Imphal), have ensured incident-free construction work at a rapid pace by the Railways. The project is at an advanced stage of completion before time & will provide vital connectivity to the North-Eastern borders while passing through challenging insurgency-hit areas.



TA Personnel Securing Rly Line Construction Work

- (b) **Border Roads Organisation Projects.** Infantry TA Battalions deployed in J&K and NE region are playing a pivotal role of ensuring intimate security and close support to the Border Roads Organisation Task Forces constructing crucial roads for connecting our operational areas.

Contribution Towards Nation Building. Aligning to National efforts in achieving Ecological Restoration and conservation goals, TA is making substantial contributions aimed at achieving National Carbon Sink targets and restoration/protection of Biodiversity. Notable efforts are: -

- (a) **River Rejuvenation.** TA's Ecological Battalion, Ganga Task Force deployed along banks of River Ganges in Kanpur, Varanasi and Prayagraj has been working with twin objectives of effective pollution abatement as well as conservation and rejuvenation of River Ganga. It is assisting the Ministry of Jal Shakti in National Mission for Clean Ganga (NMCG). The unit has rejuvenated multiple water bodies along the River and restored river banks by planting trees. Ministry of Jal Shakti had specially requisitioned the Unit to take up task of cleaning crucial stretches of River Yamuna also. A company has been deployed and has commenced its tasks at New Delhi along the Yamuna River and Najafgarh drain.



- (b) **Afforestation and Ecological Restoration.** Various Ecological Task Forces of TA deployed across the Nation are actively involved in mass afforestation and ecological restoration activities in certain degraded areas. The units have jointly planted approx 10 Crore saplings in approx 92,000 hectares of land across the country. The units have constructed numerous water bodies besides rejuvenating many existing ones.



- (c) **Public Awareness Campaigns.** TA Ecological Task Forces including Ganga Task Force are actively involved in carrying out public awareness programs aimed at educating people for having basic understanding and active participation in various ecological restoration and conservation efforts thereby contributing towards Nation Building.

Infrastructure Restoration and Populace Integration. Engineer TA Units located along Line of Control (LoC) in UT of J&K are actively involved in repair and maintenance of LoC fence, a crucial obstacle system to stop infiltration attempts from across the LoC. The Units are also actively involved in construction of Operational Infrastructure along Northern Borders in Ladakh in 'OPERATION SNOW LEOPARD'. Besides their operational role/ tasks, these units are also playing an important role of integrating the local populace by enrolling them in 'Sons of Soil' Concept hence contributing towards National Integration efforts.



Engineer Regiment Territorial Army Troops at Work

Environment

Numerous environment friendly initiatives have been undertaken by the Indian Army. In sync with National Solar Mission initiative of Government of India, Indian Army has completed Solar Projects of 94 MW capacity. A MoU has been signed with NTPC for direct purchase of 25 MW of solar power. Large scale afforestation drives have been undertaken. Over seven lakh saplings have been planted to celebrate 75th Independence Day (Azadi Ka Amrit Mahotsav). Indian Army has participated in the 'Catch the Rain' campaign by undertaking number of small/large scale water harvesting projects across the nation. In a bid to support the initiative of Government of India towards cleaner and efficient mobility solutions, Indian Army is spearheading the procurement of more than 500 e-Vehs which includes Buses and Light Vehicles.

Achievements in Sports

XXII Commonwealth Games. 18 Indian Army sportspersons participated in XXII Commonwealth Games 2022 held at Birmingham from 27 July to 08 August 2022 and brought glory to Nation by winning four Gold, one Silver and three Bronze medals. Results are as under:-

- (a) Naib Subedar Jeremy Lalrinnunga and Havildar Achinta Sheuli won Gold medal in Weightlifting.
- (b) Subedar Deepak Punia secured Gold and Havildar Deepak won Bronze medal in Wrestling (Free Style).
- (c) Subedar Amit, VSM won Gold and Subedar Mohammad Hussamuddin won Bronze medal in Boxing.
- (d) Naib Subedar Avinash Sable won Silver medal in Athletics (3000M Steeple Chase) and created a New National Record.
- (e) Subedar Sandeep Kumar won Bronze medal in Athletics (10 kilometers Race Walk).



Naib Subedar Jeremy Lalrinnunga



Havildar Achinta Sheuli



Subedar Amit, VSM



Subedar Md Hussamuddin



Naib Subedar Avinash Sable



Subedar Sandeep Kumar



Subedar Deepak Punia



Recruit Havildar Deepak

Mission Olympics Wing. Performance of Mission Olympics Wing in National/International events has been exemplary. Medals won by Indian Army sportspersons in year 2022 are as under:-

Serial	Discipline	Medals in National Events			Medals in International Events		
		Gold	Silver	Bronze	Gold	Silver	Bronze
(a)	Archery	08	14	13	02	-	-
(b)	Athletics	58	42	44	13	11	08
(c)	Boxing	26	17	05	07	01	10
(d)	Diving	17	17	10		-	--
(e)	Wrestling	27	31	61	07	03	13
(f)	Weight Lifting	15	17	12	03	-	-
(g)	Fencing	10	12	17	01	02	02
(h)	Rowing	23	22	17	03	04	03
(j)	Shooting	08	09	12	01	03	-
(k)	Sailing	11	13	11	01	-	02
(l)	Equestrian	01	04	01	07	08	06
(m)	Swimming	13	11	09		-	0101
(n)	Cycling	02	01	01	-	-	-
(o)	Winter Games	17	13	15	-	-	-
		236	223	228	45	33	45

National Sports Awards 2022. Details of Indian Army Sportspersons who were awarded 'National Sports Awards 2022' by the Hon'ble President of India on 30 November 2022 at Rashtrapati Bhawan are as follows:-

Serial	Name of Awardees	Discipline	Award
(a)	Subedar Amit, VSM	Boxing	Arjuna Award
(b)	Naib Subedar Avinash Sable	Athletics (3000M Steeple Chase)	
(c)	Naib Subedar Pravin Kumar	Wushu	

Miscellaneous Aspects

Military Civic Action Programme. Equal impetus is being given to Civic Action Programmes sponsored and funded by the Government of India aimed at 'Winning Hearts and Minds' of the populace in affected areas in Union Territory of Jammu and Kashmir, Ladakh and States of North East India under Operation SADHBHAVANA and Operation SAMARITAN. The focus has been towards development of core social indices of Quality Education, Women Empowerment, Community and Interpersonal Development, Health & Veterinary Care and Nation Building. Some important initiatives are as under:-

- (a) Veterinary Assistance. Veterinary assistance under 'Operation SADHBHAVANA' is a continuous process to treat a large number of civil animals in remote areas of Eastern and Northern frontiers. A total of 26,309

animals of different categories were treated at various veterinary aid camps in Eastern and Northern Command during the year.

Launch of Website 'Maa Bharati Ke Sapoot'. Hon'ble Raksha Mantri, recommended establishment of a web portal to facilitate voluntary contribution and make our society aware about the procedure and modalities for contribution. The National Informatics Centre (NIC) offered to customize a web portal for the development of AFBCWF website, under Ministry of Defence on similar line as 'Bharat Ke Veer'. The website (<https://maabharatikესapoot.mod.gov.in>) was formally launched on 14 October 2022 by the Hon'ble RM, Shri Rajnath Singh, at National War Memorial, in a solemn function.



Glimpse of 'Maa Bharati Ke Sapoot' launch event

Government e-Market(GeM).

- (a) Indian Army is committed for procurement through GeM and the usage has increased exponentially over the years. In current Financial Year (FY) i.e. 2022-23, Indian Army buyers have carried out procurement of ₹ 6,328 Crore and it is likely to cross the target (₹ 6,500 Crores) by the end of this FY. Procurement through GeM platform has ensured better transparency and price reasonability in public procurement. Indian Army continues to be the largest customer on GeM in Ministry of Defence.
- (b) Civil Hired Transport (CHT) Hiring on Government e-Marketplace (GeM). 100% migration of CHT contracts on GeM has been achieved as a result of development of new functionalities on GeM for CHT hiring.

INDIAN NAVY

India is a maritime nation and the country sits astride a large number of busy International Shipping Lanes that intersect the Indian Ocean. About **95% of our trade** by volume and **70% by value** is transported over the seas. For a rapidly growing economy seeking new markets worldwide, these trade figures will only grow in times to come.

The Indian Navy (IN) has been playing a **maritime leadership role** in the Indian Ocean Region due to its **multi-dimensional capabilities** and active presence in the region. The environment in India's maritime neighbourhood is dynamic, with increasing instabilities, deepening geopolitical and ethnic faultiness, growing military capabilities and wide range of security challenges. These pose a combination of conventional and sub-conventional threats emanating from the seas. These challenges require the Indian Navy to remain effective across the entire **competition-conflict continuum**, while constantly reshaping itself to meet future challenges.

A high degree of Maritime Domain Awareness (MDA) is being maintained by utilising IN assets and resources. Through the Mission-based deployment concept, IN has deployed ships and aircraft in 'pole-positions' along critical sea lines of communication and choke points. The IN stands fully ready to respond to any contingency in an appropriate manner.

The IN has been actively pursuing activities towards **capability building** and **capacity enhancement** of Navies of friendly countries in the IOR. Towards this end, India has been providing hardware and platforms, which includes ships and aircraft, for Exclusive Economic Zone (EEZ) surveillance. IN has also been instrumental in development of maritime infrastructure of friendly nations. IN initiatives contribute towards developing operational and technical skills to friendly foreign countries in line with India's vision for **Security and Growth for All in the Region (SAGAR)**.

IMPORTANT ACTIVITIES IN 2022

President's Fleet Review - 22. The President's Fleet Review was conducted at Visakhapatnam on February 21, 2022. The event witnessed participation of 60 ships (54 IN, 03 CG, 02 SCI and 01 NIOT), three submarines, 55 IN and four CG aircraft. The review was also witnessed by Hon'ble RM, RRM, COAS, CAS and other Central and State Government dignitaries.



President Fleet Review 2022

New Naval Ensign and Crest. The new Naval Ensign drawing inspiration from the Royal seal of Chattrapati Shivaji Maharaj was unveiled on 02 September 22 by the Hon'ble Prime Minister during the Commissioning Ceremony of INS Vikrant. Further, the new design of the Naval crest, removing the fouled anchor, has also been promulgated shedding the vestigial linkages of the colonial past. Accordingly, the President's Standard has also been amended to usher in the new changes.



EXERCISES WITH FOREIGN NAVIES

MILAN - 22. The Biennial Multilateral Exercise MILAN was conducted at/ off Visakhapatnam from February 24 – March 04, 2022. Delegations from 39 countries, 23 Naval ships including 13 foreign ships and seven aircraft including P8A from USA participated in the exercise.



Exercise Sea Dragon – 22. IN P8I participated in the multilateral Anti-Submarine Warfare (ASW) Theatre Exercise Sea Dragon – 22 conducted at Guam, USA from January 13 – 20, 2022. This edition saw participation of Maritime Patrol Aircraft (MPA) from five other countries viz Australia, Canada, Japan, South Korea and USA.

SLINEX 22. IN Ships Jyoti and Kirch participated in the Exercise SLINEX with Sri Lankan Navy ship Sayurala off Visakhapatnam from March 07 – 10, 2022.

DIMDEX 22. IN Ship Kolkata participated in the Doha International Maritime Defence Exhibition (DIMDEX-22) at Doha, Qatar from March 20 – 24, 2022 wherein the ship showcased the 'Make in India' drive of the Government.

IONS Maritime Exercise (IMEX – 22). The Multilateral Maritime Exercise IMEX - 22 was conducted at Goa from March 25 – 30, 2022. Observers from 15 countries, IN ships Chennai and Gharial along with P8I and Dornier aircraft, three French Navy ships (FS Loire, Amethyste, Mistral and Courbet), Iranian ship Dena and Bangladesh Naval ship Prottasha participated in the exercise.



IMEX 2022

Exercise Varuna 2022. The IN and FN bilateral exercise, was conducted off Goa in the Arabian Sea in two phases (Phase I from March 30 – April 03, 2022 and Phase II from May 12 – 14, 2022). IN Ship Chennai along with P8I, Mig-29K and Dornier aircraft and FN ships Mistral, Courbet and Loire and submarine Amethyste participated in the exercise.



VARUNA 2022

Exercise Bongosagar. The IN and Bangladesh Navy bilateral exercise Bongosagar was conducted off Bangladesh coast from May 24 – 27, 2022. INS Kora, Sumedha and Bangladesh Navy ships Abu Ubaidah and Ali Haider participated in the exercise.





Bongo Sagar 2022

Exercise Samudra Lakshmana. The IN and Malaysian Navy bilateral exercise Samudra Lakshmana was conducted off Kota Kinabalu, Malaysia from May 25 – 28, 2022. IN Ship Satpura and Royal Malaysian Navy ships Badik, Perak participated in the exercise.



Samudra Lakshmana 2022

RIMPAC 22. IN Ship Satpura alongwith P8I aircraft ex-Dega, Visakhapatnam as part of Eastern Fleet deployment, participated in biennial multilateral exercise RIMPAC 22 at Honolulu, USA from June 28 – August 02, 2022. A total of 28 countries participated in the exercise.



RIMPAC 2022

JIMEX 22. Six IN Ships (Sahyadri, Kadmatt, Kavaratti, Jyoti, Sukanya and Ranvijay), one submarine along with P8I, Mig-29K and Dornier aircraft participated in the bilateral exercise JIMEX 22 with Japan Maritime Defence Force (JMSDF) ships Izumo and Takanami from September 11 – 17, 2022 off Visakhapatnam.



JIMEX 2022

Exercise KAKADU - 2022. IN Ship Satpura along with P8I aircraft as part of deployment to Pacific Ocean participated in the multilateral exercise KAKADU – 22 at Darwin, Australia from September 12 – 26, 2022. The exercise witnessed participation of naval ships from 15 countries.

IBSAMAR- VII. IN Ship Tarkash exercised with South African Navy ship SAS King Sekhukhune 1 as part of trilateral exercise IBSAMAR – VII (India, Brazil and South Africa) off Port Elizabeth, South Africa scheduled from October 10 – 12, 2022.

India-Mozambique-Tanzania (IMT) Trilateral Maritime Exercise. IN Ship Tarkash participated in IMT Trilateral Maritime Exercise with Tanzanian Naval ships P72 and P76 at/ off Dar Es Salam, Tanzania from October 28 – 29, 2022.

SIMBEX- 22. IN Ships Ranvijay and Kavaratti alongwith one submarine and Republic of Singapore Navy ships RSS Stalwart and Vigilance participated in the exercise SIMBEX 22 off Visakhapatnam from October 28 – 30, 2022.

Indo – Pacific Endeavour 22. IN Ship Jalashwa, Kavaratti and Royal Australian Navy ships HMAS Adelaide and Anzac participated in Indo-Pacific Endeavour 22 off Visakhapatnam from October 30 – November 02, 2022.

International Fleet Review at Japan. IN Ships Shivalik and Kamorta were deployed for International Fleet Review at/ off Yokosuka, Japan from November 02 – 07, 2022.

Malabar 22. The multilateral exercise Malabar – 22 between IN, USN, JMSDF and Royal Australian Navy ships was conducted from November 08 – 15, 2022 at/ off Yokosuka, Japan. IN Ships Shivalik and Kamorta alongwith P8I maritime patrol aircraft, JMSDF ships Hyuga, Takanami, Shiranui alongwith P-1 aircraft, US Navy ships Barry, Ronald Reagan, Chancellorsville, Benfold alongwith P8A and Australian Navy ships Arunta, Stalwart alongwith P8A aircraft participated in the exercise.



Maritime Partnership Exercises. The IN undertakes Maritime Partnership Exercise (MPX) with friendly foreign navy units on opportune occasions to enhance inter-operability and imbibe best practices. A total of 47 Maritime Partnership Exercises with 28 countries (USA, Japan, Russia, Germany, Sri Lanka, Oman, Egypt, Malta, Indonesia, Myanmar, Saudi Arabia, Sudan, Greece, Italy, France, Algeria, Kuwait, Spain, Morocco, Brazil, Australia, Madagascar, Malaysia, Togo, Nigeria, South Korea, Iran, South Africa and Tanzania) were undertaken as on October 31, 2022.

Tiger Triumph. Second edition of Indo-US Tri-Services Amphibious HADR Exercise Tiger Triumph was conducted from 18-20 Oct 22 as a Command Post Exercise (CPX) at Visakhapatnam. Maj Gen McPhillips, Director, Strategy Planning and Policy, USINDOPACOM was the head of US delegation for the exercise

Naseem Al Bahr 2022. IN and Royal Navy of Oman (RNO) bilateral exercise Naseem Al Bahr was conducted at/ off Muscat and Duqm from 19 – 25 November, 2022. IN Ships Trikand, Sumitra and RNO ships Al Shamikh, Sadh and Alseeb along with aircraft from both sides participated in the exercise.

Mission SAGAR. In response to requests from Friendly Foreign Countries and maritime neighbours, IN has undertaken transshipment of Humanitarian and Disaster Relief (HADR) material and medical equipment onboard IN Ships to five nations in IOR, under the overall ambit of Mission SAGAR. Details of HADR and medical aid undertaken during the year are as follows:-

Ser	Unit	Date	Country	Medical Aid Delivered
(a)	Kesari	December 25, 2021 – January 01, 2022	Maputo, Mozambique	(i) 500 Tons of Food Aid (ii) 55 Tons of Clothing Material
		January 7 – 11, 2022	Comoros	02 Operational Readiness Facility Containers (ORFACs)
		January 14 –15, 2022	Port Victoria, Seychelles	Escorted Seychellois Coast Guard ship PS Zoroaster from Port Victoria to Kochi
(b)	Gharial	April 29 – May 01, 2022	Colombo, Sri Lanka	760 Kg of critical lifesaving medicines
		May 03 – 05, 2022	Male, Maldives	02 Ambulances
		May 11 – 14, 2022	Port Victoria, Seychelles	03 Saluting Guns alongwith ammunition
		May 27 – 28, 2022	Colombo, Sri Lanka	(i) 15750 liters of kerosene (ii) 27 Tons of medical stores

COORDINATED PATROL (CORPAT) WITH IOR LITTORAL NAVIES

As part of maritime security cooperation with maritime neighbours, Coordinated Patrols along the IMLL are being conducted with littoral navies of the IOR as per established Memorandum of Understandings (MoUs) and Standard Operating Procedures (SOPs), as follows :-

(a) **India – Myanmar Coordinated Patrol (IN - MN CORPAT).** The 12th and 13th editions of IN – MN CORPATs were held from January 08 – 09, 2022 and from April 21 – 22, 2022 respectively in Andaman Sea.

- (b) **India – Thailand Coordinated Patrol (CORPAT).** The 33rd cycle of Indo – Thai CORPAT was held from May 05 – 06, 2022 in Andaman Sea.
- (c) **India – Bangladesh Coordinated Patrol (CORPAT).** The 4th edition of IN – BN CORPAT was held from May 22 – 23, 2022 in North Bay of Bengal.
- (d) **India – Indonesia Coordinated Patrol (CORPAT).** The 34rd edition of Ind - Indo CORPAT was held from June 23 – 24, 2022.

ANTI-PIRACY OPERATIONS

Operation SANKALP. Maritime Security Operation code-named Op SANKALP in the Gulf Region was pursued to ensure safe passage of Indian Flag Merchant Vessels (IFMVs) transiting through the Strait of Hormuz. Since June, 2019, IN has deployed 36 warships and escorted approximately 361 Lakh Tons of cargo onboard 453 IFMVs.



VBSS Operations by MARCOs

Patrol of Gulf of Aden (POG). Anti – Piracy Patrol in Gulf of Aden commenced in 2008 to ensure safe passage of Indian Flag Merchant Vessels (IFMVs). 100 IN ships have been deployed in the Gulf of Aden since commencement of anti-piracy patrols in 2008.

THE INDIAN AIR FORCE



Aerospace power is a powerful and flexible tool of national security. In a classic sense, Aerospace Power is defined as the total ability of a nation to assert its will through the medium of air. It is a potent instrument of national power capable of deterring conflict and maintaining peace. In any conflict in present times, the objectives would be to isolate enemy's command and control structures and carry out precision strikes on the critical vulnerabilities deep inside enemy territory. Air power has the ability to create strategic outcomes without transiting territories on ground. This makes it a primary instrument of choice. This concept favours employment of air power more than any other form of military power. The full-scale utilisation of IAF during conventional wars like the 1965 and 1971 Indo-Pak wars, and restricted use during the 1999 Kargil conflict serve to illustrate the point.

The strength of India's aerospace power lies in the IAF with the capabilities of air arms of the other services reinforcing that strength. Aviation related research and development as also industrial capabilities have a force multiplier effect. Space capabilities further add to the above to enhance the aerospace power of the nation.

The first heavier than air flight was made in 1903 and the IAF started its journey since October 8, 1932. In less than one hundred year, the IAF has evolved from a tactical auxiliary arm of the Royal Air Force in India, to an independent professional strategic force which endeavours to be at the forefront of national service. It has played a pivotal role in the country's security for the last 90 years.

With the present security environment of India, the challenges India is facing are varied, complex and dynamic. To face these challenges, the IAF is well on its way to become a truly transformed and lethal force. The weapon systems being inducted will permit enhancement and exploitation of air power with efficiency and precision.

The vision of the IAF is **'to acquire strategic reach and capabilities across the spectrum of conflict that serve the ends of military diplomacy, nation building and enable force projection within India's strategic area of influence.'** Towards this, IAF is pursuing a focused modernisation plan to transform into a strategic aerospace power with full spectrum capability. Continuous upgradation of the existing equipment and induction of new

weapon platforms and systems have ensured that IAF continues to progress on the desired trajectory of modernisation. Induction of Rafale aircraft, Attack helicopters, Heavy Lift Helicopters, Combat Support Elements, Surface-to-Air Guided Weapons (SAGW) and Air Defence Radars will bolster operational capability and capacity. The IAF is also strengthening its ability to undertake Network Centric Operations (NCO) by integrating all the Command and Control structures with the sensors and weapon systems.

IAF is striving towards self-sufficiency by promoting 'Make in India' since long through focused, sustained and evolved indigenisation programmes. IAF is committed to progressively reducing India's reliance on foreign manufactured defence equipment and to continue to strive in supporting the country's 'Atmanirbhar Bharat' initiative.

IAF has maintained pace with the Military technology advancement through Indigenisation, Integration and Procurement:-

- (a) **Indigenisation.** IAF has renewed its focus on attaining self-reliance in defence manufacturing and helping the industry in building indigenous systems. As part of Atmanirbhar Bharat, IAF is pursuing indigenous production of fighters, transport, helicopters and trainer aircraft along with air to air weapons, air to ground weapons, surface to air guided weapons, unmanned aerial vehicles and radars. IAF is also in the continuous process of indigenisation of foreign sourced equipment/ aircraft components.
- (b) **Integration.** Integration of existing weapons on new platforms like the Tejas and new weapons on existing platform like the BrahMos and Astra on the SU-30MKI has been successfully executed.
- (c) **Procurement.** IAF has kept pace with developments in air power with induction of aircraft and weapon systems (S-400, Rafale, Apache, Chinook, C-17 and C-130J).

The IAF regularly conducts Joint Combat Training in the Integrated Training Area created in central India region. This involves training of all combat elements, including that of the Indian Army and Indian Navy, with replication of adversaries' forces as per existing situation and likely scenarios of the future. This increases the level of synergy and integration. IAF also enhances its operational practices through various International Exercises.

IAF has a strong and robust Operational network in the form of Air Force Network (AFNET). In the age of cyber dominance, availability of a standalone robust network enables IAF to maintain real time information domain for Operations, Maintenance and Administration. Campaign Planning Analysis System Automation riding on this network has enabled information centric warfare critical for the IAF in future conflicts.

AatmaNirbhar Bharat

The IAF actively supports the national vision of Atmaanirbhar Bharat and has been making effort to reach out to the industries, MSMEs, start-ups and academia. It has been an endeavour of the IAF to avail various schemes launched by Gol and provide impetus to the process of self-reliance in Defence Manufacturing. IAF as always has progressed further on its path of indigenisation. In order to fully exploit the capacity and capability of the Indian industry, IAF has fielded certain challenging cases under the Make procedure and these, in the coming times, would ensure continuance of induction of new technologies developed through indigenous resources. The Government of India has taken the following steps to achieve self-reliance in defence production:-

- (a) **Make Procedure.** Under the Make procedure, IAF has been accorded AIP for 31 cases under Make-I/II/III categories of Chapter III of DAP 2020. Out of these cases, Project Sanction Orders for design & development

of Chaffs & Flares, Infrared Search & Track (IRST) System for Su-30, Foldable Fibre glass Mats, 125 Kg Bomb, Fuse for Aerial Bomb and Inflatable Decoys have been awarded to Indian vendors. These have generated business opportunity of Rs 3383.3 Cr for the Indian Industry.

- (b) **Technology Development Fund (TDF) Scheme.** Government of India had set up a Technology Development Fund (TDF) to provide grant for development of technologies that will form the kernel of components/assemblies, which in turn will be used to develop defence equipment. The fund is managed by DRDO. Under the TDF scheme, IAF has twenty cases at various stages of the process. Out of these, D&D of Video processing switching board for Su-30 MKI has been completed by M/s Logic Fruit Technologies Ltd. Contract for six more cases has been awarded to Indian Industry.
- (c) **Innovation for Defence Excellence (iDEX).** iDEX aims for creation of an ecosystem to foster innovation and technology development in Defence and Aerospace sector by engaging industries including MSMEs, Start-ups, Individual Innovators, R&D Institutes, Academia and provide them grants/funding and support to create product and services for Indian defence and aerospace needs. iDEX provides a structure/ platform for the IAF to Co-ideate and Co-innovate along with start-ups/ MSMEs to seek innovative & indigenous solutions. At present, there are more than 21 cases of iDEX being processed by IAF under various stages, of which three are presently at the procurement stage. IAF is involved in development of niche capabilities like Manned Unmanned Teaming (MuM-T), Optionally Piloted Aircraft, Next Generation Loitering Munitions, Counter UAS System and High Altitude, Pseudo Satellite etc.
- (d) **Positive Indigenization List.** Four Negative List/ Positive Indigenisation List have been promulgated. The First List was promulgated on 21 Aug 20. 3rd Positive Indigenisation List was released on 07 Apr 22 and 4th Positive Indigenisation List was released on 19 Oct 22 with a total of 101 items.

Development of IAF Airfield at Deesa

Hon'ble Prime Minister of India laid the foundation stone for development of Deesa Airfield during the Def Expo on 19 Oct 2022. Deesa is the first Military Airfield being developed in Gujarat since 1985. Its location is strategically important as there is no airfield between Uttarlai (Barmer) in the North and Bhuj in the South for a long stretch of 355 Km. This large gap could be exploited by the adversary to target our VAs/VPs in Gujarat and Rajasthan sector. It is expected that this area would be the lynchpin of our industrial growth considering the Delhi – Mumbai Industrial corridor and hence there would be an increase in the VAs/VPs in the area which would require protection. Creation of the base would facilitate deployment of surveillance assets along with fighter aircraft, Surface to Air Guided Weapon Systems, etc in the region thereby enhancing both the offensive and defensive potential of the IAF in the region to counter any threat. It would also allow for air operations in support of ground forces in the sector.

Since Deesa is 130 Km from the International Border, it would allow for increasing the radius of action of our offensive aircraft while simultaneously enabling the IAF air defence aircraft and other air defence assets in intercepting hostile aircraft before they can inflict any damage. It would also allow for a reduced combat reaction time as compared to what would be required from the present IAF bases to intercept any intruder in this region and thereby enhance the combat potential of the IAF besides acting as a launch base for undertaking HADR operations in case of natural calamities.

The creation of the base would definitely enhance flexibility of the IAF to meet any challenges on western border and also in supporting the local population in times of need. In future, the airfield would also facilitate the expansion of regional connectivity scheme UDAN in Northern Gujarat.

Miscellaneous Events

International Flight Test Seminar



International Flight Test Seminar

Aircraft and Systems Testing Establishment (ASTE), which is a premier Establishment of the Indian Air Force involved in flight testing of aircraft and weapon systems, celebrated its Golden Jubilee milestone after completing 50 years of service to the nation. As a commemoration of the Golden Jubilee milestone, an International Flight Test Seminar was conducted on 04-05 Nov 22.



HEADQUARTERS INTEGRATED DEFENCE STAFF (HQ IDS)



HQ IDS was raised on 01 Oct 2001 based on the recommendations of Group of Minister (GoM) on the Kargil Review Committee (KRC) report. The HQ was raised under the command & control of Chairman Chiefs of Staff Committee (COSC) to foster jointness and synergy amongst the three Services. Since its inception, IDS has achieved considerable milestones in joint and integrated planning, coordination of intelligence, joint conduct of Humanitarian Assistance and Disaster Relief (HADR) Operations and prioritising/ streamlining procurements. Salient achievements of HQ IDS, during the ensuing year are enunciated in succeeding paragraphs.

OPERATIONS AND EXERCISES

India-Maldives HADR Exercise. In order to enhance India-Maldives cooperation in HADR, an HADR TTX was conducted at Maldives from 20-22 Sep 22



INDIA-MALDIVES HADR EXERCISE

India-Singapore Geo-Spatial Info Sharing Exercise for HADR. In pursuance of the 5th India-Singapore Defence Ministers' Dialogue, held on 20 Jan 2021, action has been taken towards establishing the scope of geo-spatial information sharing within the domain of HADR, and Table Top Exercise (TTX) for establishing interoperability in HADR operations, with Singapore. The TTX was held from 03-04 Aug 22 at IFC-1OR Gurugram.



INDIA-SINGAPORE GEO-SPATIAL INFO SHARING EXERCISE FOR HADR

PM Gati Shakti Plan. PM GatiShakti National Master Plan was announced in Nov 2021 to ensure integrated planning and synergized execution of infrastructure projects. Actions have been taken in organisation, connectivity, procedures and training for alignment of Armed Forces requirements with the PM Gati Shakti Plan.

COVID-19 Response – 2022 (Third wave). The Armed Forces responded promptly and efficiently during the third wave of COVID-19.



ARMED FORCES COVID-19 HOSPITAL

Exercise VOSTOK-22. Multilateral Exercise Vostok-22 was conducted from 01-07 Sep 22 at Vladivostok, Russia with participation from IA and HQ IDS personnel. The multi-national exercise provided a forum to interact with nations including China towards understanding and developing tactics, techniques and procedures.



Ex Cybershakti. DCyA (Defence Cyber Agency) conducted the second edition of cyber exercise 'Cybershakti-2022' in Dec 2022. The exercises were aimed at enhancing synergy and jointmanship amongst the three Services. The exercises witnessed active participation from SCGs and IT training establishments of the Services.

International Cyber Exercise. DCyA (Defence Cyber Agency) has led a joint team from all three Services in various international exercises and forums. These include Ex CiberPerseu 22 by the Portuguese Armed Forces, Ex Cyber Dawn & Cyber Flag conducted by US CYBERCOM, and ADMM Plus Cyber Security Trg conducted by Republic of Korea.

Exercises with ASEAN. The year 2022 marked 30 years of ASEAN- India relations and was designated as ASEAN- India Friendship year. A number of joint exercises were planned with ASEAN countries. Details are enumerated below:-

- (a) **18th ADMM Plus EWG on HADR.** The 4th Cycle for ASEAN Defence Ministers Meeting Plus (ADMM) Expert Working Group (EWG) on HADR runs from 2021-23, for which Indonesia and India are the co-chairs. The Site Survey and Planning Conference for Field Training Exercise (FTX) was held in Indonesia from 31 Oct 22 to 01 Nov 22.



18TH ADMM PLUS EWG ON HADR

- (b) **Annual Joint HADR Exercise 'Samanvay-22'.** The nature of disasters in India and ASEAN member states (AMS) is almost similar, a joint HADR exercise was planned with a focus on tapping the synergy of all possible existing disaster management partners for efficient relief ops in hilly area. Towards this, a three member delegation from each ASEAN Secretariat and countries were invited to participate in the conference. The exercise, named 'Samanvay-22', was conducted at Agra from 28 to 30 Nov 22.



ANNUAL JOINT HADR EXERCISE 'SAMANVAY-22'

QUAD HADR Exercise. The Quad partnership on HADR in the Indo-Pacific region was envisioned by the Quad leaders to ensure a coordinated and rapid response to disasters. To enable Quad cooperation in HADR maiden TTX, for subject matter exchanges, sharing of best practices in disaster response and to devise an action plan, the exercise was held under the aegis of MEA at New Delhi from 13-14 Dec 22, duly steered by HQ IDS.



QUAD HADR EXERCISE

Exercise Tiger Triumph TTX-2022. The 2022 edition was planned with a theme of HADR in a Pandemic environment. The table top exercise was held from 18-20 Oct 22 at Visakhapatnam.



EXERCISE TIGER TRIUMPH

Foreign Cooperation

Training of Defence Attaches (Designate). HQ IDS organised a 10 weeks training programme from 04 Jul - 09 Sep 22 for Defence Attachés (Designate) who were selected through stringent process by the three Service HQs for serving in Indian Missions abroad. A total of 23 officers (08 - IA, 06 - IAF & 09 - IN) participated in the training programme. The programme was specially curated to help familiarise Defence Attachés with various aspects of their impending diplomatic assignment. The diverse exposure received by the participants has helped them understand nuances of global geo-politics and their charter as part of the Defence Wing.



5th DAs (DESIG) PRE-DEPLOYMENT EMPOWERMENT TRAINING

DAs Conference. 4th DAs Conference was conducted at South Block, New Delhi from 13-14 Oct 2022. The Conference broadly included interactions with and presentations to Hon'ble RM, CDS, Service Chiefs, Secretaries and representatives from MoD, MEA, SHQs & HQ IDS.



4TH DAs CONFERENCE



Interaction With FSAs: 27 Jul 2022. DG DIA & DCIDS (Int) interacted with Foreign Defence/Service Attaches on 27 Jul 22 at Kota House. DG DIA highlighted upon the role, organisation & Structure of Int agencies in India and also threw light upon the expectations from FDA's.

INTERACTION WITH FOREIGN DEFENCE/SERVICE ATTACHES

Events Conducted

Merging of Amar JawanJyoti with Eternal Flame at National War Memorial. Amar JawanJyoti was merged with the eternal flame at the National War Memorial at 1530 hrs on 21 Jan 22 in a solemn ceremony, with full military honours by the CISC in presence of Service representatives.



MERGING OF AMAR JAWAN JYOTI

Kargil Ek Shaurya Gaatha. Honouring the valour and supreme sacrifice of Bravehearts, artists of National School of Drama delivered 'Kargil Ek Shaurya Gaatha' at Public Plaza in National War Memorial.



KARGIL EK SHAURYA GAATHA

Indian Ancient Knowledge System. The two-day seminar on 'Indian Ancient Knowledge System: Relevance to National Security and Defence Management' was conducted at CDM, Secunderabad on 27-28 Jan 22. The seminar addressed this very important subject under three themes namely the state and its security, strategic culture & statecraft, and national security frameworks: roles & responsibilities. The objectives of the Seminar were not only to delve into the vast repository of Indian Ancient Knowledge but also to kindle interest in the subject amongst participants.



SEMINAR ON INDIAN ANCIENT KNOWLEDGE SYSTEM

Combined Operational Review and Evaluation (CORE) Programme. A development programme for Maj Gen & equivalents and their civilian counterparts was conducted from 25 Apr to 29 Apr 22 at USI, New Delhi. 17 Maj Gens and equivalent officers from the three Services participated in the development programme. The programme was conducted by means of Panel Discussions and Invigorating Talks, on contemporary issues by subject matter experts, from the Armed Forces, IFS, Academia and Industry. The key focus areas were Jointmanship, Integration and Theaterisation, Non-Kinetic aspects of National Security, Changing Nature of Warfare & Emerging Threats, Acquisition Management and Strategic Leadership.



CONDUCT OF CORE PROGRAMME - 2022

Seminar on Chemical-Biological Threats and Mitigation Measures. One day seminar on this contemporary and live subject was conducted on 15 Nov 22, with an aim to generate awareness amongst the three Services. One eminent speaker each with requisite experience in the domain, highlighted the Threat Landscape, Impact of Technological Proliferation and Mitigation Measures at the grass root level, contributing towards the Force Preservation. 34 Officers physically attended the seminar from the three Services & HQ IDS and 175 Institutions / Formations / Units attended the same in virtual mode platform.



SEMINAR ON CHEMICAL-BIOLOGICAL THREATS AND MITIGATION MEASURES

Cyber Jagrookta Diwas. A comprehensive campaign to enhance Cyber awareness amongst personnel of all three Services, Defence Civilians and their families was conducted under the aegis of DCyA and Service Cyber Groups (SCG) as part of National Cyber Security Awareness Month in Oct 2022.

National Unity Day Celebrations. National Unity Day was celebrated by administering the Unity Pledge. Further a Unity Run was also organized and the event saw enthusiastic participation by Tri-Service warriors.



NATIONAL UNITY DAY RUN

Constitutional Day Celebration. Constitutional Day was celebrated on 26 Nov 2022 which included undertaking a Pledge with all the employees and organising of talks/ webinars covering the fundamentals of the Indian Constitution.



CONSTITUTIONAL DAY CELEBRATION

Tree Plantation Drive. A tree plantation drive was conducted on 08 Dec 22 to commemorate the first death anniversary of late Gen Bipin Rawat and 13 deceased personnel at Trident Officers' Mess, HQ IDS.



TREE PLANTATION DRIVE



HUMANITARIAN ASSISTANCE AND DISASTER RELIEF (HADR)			
Ser	Date	Incident	Rescue / Relief Details
1.	27 Mar 22	Fire Incident at Sariska Tiger Reserve, Alwar (Rajasthan)	72,350 ltrs water dispensed in 31 Sorties
2.	10 Apr 22	Ropeway Accident, Jharkhand	56 personnel rescued
3.	18 Apr 22	Fire Incident at Sajjangarh Wildlife Sanctuary, Udaipur Rajasthan	9800 ltrs water dispensed in 11 sorties
4.	28 Apr 22	Combat Forest Fire in VankhandBanki (Village-Sisarama), Udaipur (Rajasthan).	24200 ltrs water dispensed in 07 sorties
5.	07 May 22	Cyclone 'ASANI'	Teams were kept on standby for rendering assistance.
6.	17 May 22	Flood Relief and Evacuation in Assam	<ul style="list-style-type: none"> • 1906 civilians rescued and 10330 Kg of ration distributed by IA. • 819 civilians rescued and 251.4T relief material distributed by IAF.
7.	08 Jul 22	Op Shiva (for flash floods in Holy Shrine Amarnath Ji Cave)	<ul style="list-style-type: none"> • 102 civilians rescued by IA. • 252 civilians rescued and 34.63T relief material distributed by IAF.
8.	-	Flood Relief Readiness in Gujarat, Telengana and Maharashtra and Andhra Pradesh	<ul style="list-style-type: none"> • 113 civilians rescued by IA. • 340 civilians rescued and 64.48T relief material distributed by IAF. • 17.35T material distributed by IN.
9.	26 Aug 22	Flood Relief Evacuation in Rajasthan, Madhya Pradesh and Uttar Pradesh	<ul style="list-style-type: none"> • 502 civilians rescued by IA. • 03 civilians rescued and 1500 kg relief material distributed by IAF.
10.	06 Sep 22	Flood Relief Evacuation in Bangalore	80 civilians rescued by IA.
11.	26-28 Sep 22	Flood Relief Evacuation in Pithoragarh	116 civilians rescued by IAF
12.	04 Oct 22	Avalanche Incident and Rescue Operation in Harsil, Uttrakhand	<ul style="list-style-type: none"> • 32 personnel rescued and 8410 kg material dropped by IAF. • 27 dead bodies recovered.
13.	30 Oct 22	Ropeway Bridge Incident and Rescue Operation in Morbi, Gujarat	<ul style="list-style-type: none"> • 84 civilians rescued. • 134 bodies recovered. • One NDRF team airlifted to Rajkot. One AN 32 kept s/by in Jamnagar. • 27 Garuds deployed at site from Jamnagar for rescue & relief ops.

Defence Research and Development Organisation



रक्षा मंत्रालय
MINISTRY OF
DEFENCE

Defence Research and Development Organisation

BACKGROUND

DRDO was established in 1958 by combining Defence Science Organisation with Technical Development Establishments. As it evolved, new laboratories were created to take-up indigenous development of technologies and systems. The laboratories are broadly classified into system design and development, science & technology and testing labs. DRDO has developed many weapon systems and products for the Services. DRDO has created sufficient expertise in the development of strategic systems, military aircrafts, tactical missiles, radars, sonars, torpedoes, multi-barrel rockets launchers and tanks. These systems are highly technology intensive and many DRDO laboratories have contributed along with private industries, Ordnance factories and Defence PSUs in building them. Needless to say that DRDO has contributed in creating the eco-system of industries for some of these domains.

The current policies of the government encouraging indigenous systems development by the Indian industry as well as creation of the two defence corridors has opened the doors to the private industries to venture into defence sector. DRDO has published a negative list highlighting the systems or technology products that could be handled directly by the Indian industry. It is thus the right time and opportunity for DRDO to focus on technologies to realise futuristic systems that would be game changers in the battlefield.

DRDO's mission essentially covers the following broad activities:

Design and develop state-of-the-art sensors, weapon systems, platforms and allied equipment in defence and security domains of land, air, sea, space and cyber.

Facilitate production and induction of Systems and Technologies developed through Department's R&D ecosystem.

Provide technological solutions to the Services to enhance combat effectiveness.

Nurture and strengthen Defence R&D capability in Indian industry, Science and Technology (S&T) institutions and academia through collaboration.

Development of infrastructure and test and evaluation facilities; design certification; skill development; and strengthen human resources.

MANPOWER

As on 01 Nov 2022, DRDO has a strength of 20,899 employees, out of which 6,802 are scientists and 1731 are from Armed Forces.

Major Systems Delivered/ Handed over/ Inducted/ Being Inducted

Third Generation Helicopter Launch Anti-Tank Guided Missile ('HeliNa'/Dhruvastra)

The HeliNa is a 3rd generation helicopter-launched anti-tank guided missile (ATGM) with Lock-on-before-launch (LOBL) capability with IIR seeker for integration on Advance Light Helicopter (ALH). The system has all-weather day and night capability and can defeat battle tanks with conventional armour as well as with explosive reactive armour. As a part of User validation trials, flight trials were conducted at high altitude range at Leh from Advanced Light Helicopter (ALH) in Apr 2022. With the flight test, consistent performance of the system has been established, which will enable the induction of 'Helina' into the Armed Forces



Nag' Anti-Tank Guided Missile

'NAG' is a 3rd generation, Anti-Tank Guided Missile (ATGM) developed by DRDO. With day & night operation capabilities, the missile can engage modern enemy tanks. It is a Lock-on-Before-Launch (LOBL), Fire & Forget class ATGM and uses indigenously developed seeker. User trials of missile system have already been completed. During Feb 2022, phase-1 of Maintenance Evaluation Trials (MET) of NAMICA has been completed and during Oct 2022, 200 Km Track Trials of NAMICA were completed at Ordnance Factory Medak. DGQA evaluation is under progress. The system is poised for induction.



Authority Holding Sealed Particulars (AHSP) of Akash Weapon

Akash is the first state-of-the-art indigenous surface to air missile system which has been with Armed Forces for nearly a decade. During Dec 2022, DRDO handed over AHSP of Akash weapon system (Indian Army Version) to Missile Systems Quality Assurance Agency (MSQAA). The technical specification & quality document and the drawing of complete weapon system elements were sealed and handed over by project Akash to MSQAA as part of AHSP transfer.

Medium Range Surface to Air Missile (MRSAM) for Indian Air Force (IAF)

MRSAM for the IAF is an advanced network centric combat air defence missile system jointly developed by DRDO and Israel in collaboration with the Indian industry comprising of private and public sectors including MSMEs. It is capable of engaging multiple aerial targets like fighter aircrafts, helicopters, and cruise missiles. During 2022, a number of firing unit of MRSAM were delivered to the Indian Air Force.



Advanced Towed Artillery Gun System (ATAGS)

ATAGS is an all-electric drive four wheeled advanced gun system. It meets futuristic requirements such as better accuracy, advanced fire control system, extended range and multiple round simultaneous impact capability with surveillance and sighting systems onboard. The system is capable of firing existing 155mm ammunitions held with Indian Army with higher range, accuracy and consistency. During Apr - May 2022, PSQR Validation Re-trials (PVRT) were successfully completed. EMI/EMC trials were conducted during May-Jun 2022. MET were also successfully completed during Jul-Sep 2022. For the first time, ATAGS was used in the ceremonial 21-gun salute during the Independence Day 2022 celebrations at Red Fort.



EW Systems 'Samudrika' for Ships, Aircrafts & Helicopters of Indian Navy

DRDO has taken up development of a family of seven Electronic Warfare (EW) systems, which includes three ship-borne systems (Shakti, Nayan & Tushar) and four air-borne systems (Sarvadhari, Sarang, Sarakshi & Nikash). All the development trials of seven Electronic Warfare systems for Naval platforms have been completed. Shakti EW system was handed over to the Chief of Naval Staff by Hon'ble Prime Minister during the Rashtra Raksha Samarpan Parv at Jhansi in Nov 2021. ToT was given to industry partners by Hon'ble Raksha Mantri during the 'Bandhan' ceremony at Def-Expo in Gandhinagar in Oct 2022.

Air Independent Propulsion (AIP) System

DRDO has developed a full-scale Land Based Prototype (LBP) for demonstration of hydrogen fuel cell-based AIP system to enhance underwater endurance of diesel-electric submarines. During 2022, Phase I and Phase II out of four phases of derisking trial of AIP prototype were completed in front of the Users. The life cycle study towards derisking of AIP module prior to integration on submarine is in progress. The system tableau was showcased in Republic Day Parade – 2022.



Weapon Locating Radar (WLR)

WLR is coherent, electronically scanned phased array radar. The radar automatically locates hostile artillery, mortars and rocket launchers and tracks friendly fire to locate the impact point of friendly artillery fire to issue necessary corrections. The radar is designed to detect projectiles with small cross section across the battle space horizon, and has the capability to handle simultaneous fire from weapons deployed at multiple locations. During Jun 2022, DAC has accorded approval for replacement of imported radar with indigenous WLR - Swathi. User evaluation of WLR-Mountains are also under progress and Indian Army has placed order for WLR Mountains.



Border Surveillance System (BOSS)

BOSS provides all weather remote surveillance of Border areas using Radar, electro-optical and geo-location sensors powered with hybrid energy source. The system facilitates monitoring and surveillance by automatically detecting the instructions in harsh high-altitude sub-zero temperature areas with remote operation capability. The system has already been handed over to Indian Army by Hon'ble RM. First of Production Model (FOPM) unit was delivered to User at field location during Oct 2022.

Commanders Thermal Imaging Sight with Day cum Laser Range Finder for T-90 Tank

Commander's Thermal Imagers (CTI) is used for battle field surveillance and acquisition of targets both during day and night. It also enables the hunter killer capability of Armoured Fighting Vehicles (AFVs) during night. The Thermal Imager is based on MWIR enhancing the recognition range. With these upgrades, the tank commander will be able to carry out independent surveillance and target acquisition during day/ night. An eye safe Laser Range Finder (LRF) has been incorporated to get accurate ranges of the target in Commander's Sighting System. During Feb 2022, Indian Army has placed an indent for induction of Commanders Thermal Imaging Sight with Day cum Laser Range Finder for T-90 Tank system and orders placed on industry partner.

DHWANI Automated Sonar Trainer

DHWANI is an advanced training tool for Indian Navy personnel designed to physically generate scenarios for learning of concepts related to passive sonar, active sonar and underwater communication system. The system was handed over to Indian Navy in presence of Hon'ble Vice President on 02 Jan 2022.



Radiation Contamination Monitoring Systems (RCMS) for Indian Navy

RCMS, consisting of Portal Monitoring System (PMS), Contamination Monitoring System-Linen (CMS-L), Contamination Monitoring System-Terrain (CMS-T) and Hand Foot Contamination Monitoring System (HFCMS) have been developed for Indian Navy. The system provides effective management of situations during the accidental emissions of nuclear radiations due to any nuclear/radiological emergency. After successfully completing field evaluation, systems have been handed over to Indian Navy during May 2022.

Helmet and pressure breathing Mask

Integrated Common Helmet and Pressure Breathing Oxygen Mask is being used by IAF pilots operating Euro and Russian Series Aircraft. The helmet and mask for aircrew of Mi-17 and Mi-17 1V helicopter have been accepted by IAF on obtaining flight clearance and successful flight trials. During 2022, first batch of MIG-29K Aircrew Helmet & Pressure breathing Oxygen Mask was handed over to Indian Navy.



High Strength Steel for 'INS Vikrant'

DRDO developed high strength steel was used in building Indian Navy's first Indigenous Aircraft Carrier (IAC) 'INS Vikrant' which was commissioned by Hon'ble Prime Minister on 02 Sep 2022.

Monolithic Microwave Integrated Circuits (MMICs)

DRDO developed MMICs have been used in radar imaging satellite modules of Earth Observation Satellite (EOS), which was launched by ISRO during Feb 2022. This was an example of collaborative achievement between two advanced technology departments of Government of India along with support of industry partners.



Drone: Detect, Deter and Destroy (D4) System

D4 System is capable of real time search, detection, tracking and neutralization (soft/hard kill) of drones (micro/small UAVs) flying in the area of responsibility and will provide object details (optical / thermal) and RF spectrum display on a Graphical User Interface (GUI). The system was deployed at Republic Day Parade, Beating the Retreat, Independence Day and Defence Expo during 2022. Tri-services have placed orders for these systems. During Apr 2022, LAToT (Licensing Agreement for Transfer of Technology) has been signed with a number of industry partners.

Extreme Cold Weather Clothing System (ECWCS)

The ECWCS developed by DRDO is a modular, three layered clothing system which has been designed and evaluated to meet the insulation, waterproofing, strength, light weight and ergonomically evaluated wearer comfort requirements during combat operations in extreme altitude regions. The technology has already been transferred to industry partner after field evaluation on human subjects. During 2022, field testing of ECWCS was carried out at Chang La, Khardung La and Base Camp. User trials are also under progress.



Sea Water Purification Kit (Gaganyaan Mission and Indian Navy)

Technology developed for converting sea water into potable water namely Emergency Sea Water Purification Kit (ESWPK). The kit removes high Total Dissolved Solids (TDS), turbidity, color, microbial contamination from sea water within 30 minutes & provides purified water to sailors/astronauts/ soldiers during operational condition and emergency scenario. During 2022, User trials of Kit for Gaganyaan mission were also carried out at Naval Dockyard Mumbai. ToT has been completed and Indian Navy has given acceptance for utilisation in life rafts.



Avalanche Radar

DRDO has developed a state-of-the-art Doppler avalanche monitoring radar, which was installed and operationalised in North East Himalaya by the Indian Army and DRDO. It has the capability to detect avalanches within three seconds of its trigger and will assist in saving lives of troops and reducing damage to property in super high altitude areas.

Major Systems under User Evaluation

Quick Reaction Surface-to-Air Missile (QRSAM)

The QRSAM is a land-based on-the-move air defence system developed for Indian army. The system is capable of engaging multi directional targets with search and track on move capability and firing on short halts. The missile is highly agile and can handle highly maneuverable aerial threats. The indigenously developed missile system with customized Mobile Launcher Vehicle (MLV) has also been designed and configured to meet the operational requirements and functional needs of



the Indian Army. During Sep 2022, DRDO & Indian Army have conducted a number of successful flight tests of QRSAM missile system from ITR Chandipur.

Laser based End Game Fuze (LBEGF) detects the airborne target and provides range & sector information along with the firing pulse during target engagement of missile. LBEGF were realised through industry partner and successfully test flown in QRSAM.

Radar for the missile has four antenna panel active electronically scanned array with electronic stabilisation for operation on move. During Sep 2022, mobility trials and User portion of PSQR Verification Trials (PVT) was completed.



BrahMos

BrahMos, a two stage precision strike supersonic cruise missile, operating on fire and forget principle, can be launched from multiple platforms (at air, sea and ground) against land and sea targets. Air version of BrahMos supersonic cruise missile was successfully tested by Indian Air Force on 19 Apr 2022 and Anti-ship version was successfully tested by Indian Navy on 27 Apr 2022. First launch of Extended Range version of BrahMos missile was conducted

from Su-30 Mk1 aircraft on 12 May 2022. With this, capability has been achieved to carry out precision strikes from all three vectors (Land, Air & Sea). MoD signed a contract with M/s BrahMos Aerospace Pvt Ltd for acquisition of additional dual role capable Surface-to-Surface BrahMos Missile under 'Buy-Indian' category.

ATGM for MBT Arjun Mk-II

Canon launched Anti-Tank Guided Missile (ATGM) has been developed with multi-platform launch capability and is currently undergoing technical evaluation trials from 120 mm rifled gun of MBT Arjun Mk-II. The indigenous ATGM employs a tandem High Explosive Anti-Tank (HEAT)



warhead to defeat Explosive Reactive Armour (ERA) protected armoured vehicles. The missile was successfully test-fired from MBT Arjun during Jun 2022. In the test, the ATGM hit the bull's eye and defeated target at minimum ranges. With the trial, the ATGM's capability to engage targets from minimum to maximum range has been established. Again during Aug 2022, the missile was successfully test-fired. In the test, the missiles hit with precision and destroyed the targets at two different ranges.

Laser Seeker Module (LSM) is a critical subsystem of ATGM which provides in flight guidance to ATGM and can be launched from MBT Arjun MK-II. A number of modules have been realised through industry partners and undergoing a series of flight trials with the ATGM.



Arjun Armoured Repair & Recovery Vehicle (Arjun ARR)

This special vehicle has been uniquely designed with various high capacity recovery and repair aggregates as per PSQRs for supporting MBT Arjun. The vehicle has been realised through a co-development and production

agency. DGQA evaluation and MET (utility portion) of Arjun ARR was completed in Mar 2022 and Aug 2022 respectively. EMI/EMC trials are under progress. AoN for Arjun ARR had been obtained.

Upgraded 1000 hp engine for T-72 tanks

In order to enhance the mobility due to weight additions by ERA and other improvements, DRDO upgraded the power output of T-72 engine from 780hp to 1000hp. The upgraded engine underwent extensive trials at desert of Rajasthan. DRDO had prepared two T-72 tanks integrated with upgraded 1000 hp engine and fielded them for User trials. During May 2022, User trials were conducted in desert of Rajasthan. Engine along with upgraded modules performed well during the entire run.

Mechanical Mine Layer – Self Propelled (MML-SP)

Munition laying of anti-tank Mk-III/IV munitions (Bar Munitions) is an important activity of Indian Army. It slows down or removes possibility of enemy tank movement across munition strip. To perform this activity, DRDO has developed self-propelled (SP) and fully automated Mechanical Munition Laying (MML) equipment. It is designed for laying bar munitions in soil at variable depth and spacing with effective munition laying rate in plains, desert and semi-desert terrains. During 2022, the system has completed field evaluation, MET and undergone User evaluation.



Pinaka Mk-I (Enhanced Range) Rocket System

The Pinaka is a free flight artillery rocket system. Pinaka rockets are launched from a multi-barrel rocket launcher which has a capability to launch salvo of rockets. During Apr 2022, Pinaka Mk-I (Enhanced Range) Rocket System (EPRS) and Pinaka Aerial Denial Munition (ADM) rocket system have been successfully flight tested by DRDO and Indian Army. A

number of EPRS rockets were fired for different ranges for accuracy and consistency. Technical evaluation was carried out during Jul-Aug 2022. High Altitude trials were jointly conducted by DRDO and User during Oct 2022.

125 mm FSAPDS tank ammunition

Design and development of 125 mm FSAPDS ammunition is underway. The ammunition has good depth-of-penetration & consistency. Initial lethality trials demonstrated the capability of the ammunition to achieve good depth-of penetration. Prototypes testing and evaluation has been completed. PSQR trials are initiated as per User trial directives. During Jun 2022, lethality trials were conducted at KK Ranges, Ahmednagar in the presence of Users. Ammunition penetrated through the target and achieved a high depth of penetration. Further during Oct 2022, DGQA environmental trials have been completed.



Advanced Lightweight Torpedo (ALWT)

ALWT is an anti-submarine torpedo. It is capable of being launched from ships and helicopters of the Indian Navy for Anti-Submarine Warfare (ASW) operations. During 2022, two UETs were successfully completed.

Advanced Light Towed Array Sonar (ALTAS)

The ALTAS is an efficient sensing system for detection, localisation, and classification of submarines operating in the below surface layer ocean conditions. It is useful in Anti-submarine Warfare (ASW) operations and is the apt sensor for warships to locate silent submarines. During 2022, Technical Trials (TT) of the system have been completed on Naval platform and User associated / User evaluation trials are being progressed.

Portable Diver Detection Sonar (PDDS)

The objective of the project is to develop the technology and techniques for detection and classification of underwater intruders or threats like divers and swimmer delivery vehicles; especially near water-side assets and ships at anchor or in harbour. The system will be deployable and retrievable as and when required. During 2022, capabilities of the system for detecting small targets such as divers and Autonomous Underwater Vehicles (AUV) having very low Target Strength (TS) were successfully demonstrated to Navy.

Air Defence Fire Control Radar (ADFCR) – Atulya

ADFCR, in conjunction with Anti-Aircraft Guns, forms a Ground Based Air De-fence (GBAD) system whose main purpose is effective point defence against all air threats (fighter aircraft, helicopters, and UAVs) at short and very short ranges during day and night, under all weather conditions and also in the presence of enemy jamming. During Jul 2022, User technical trials and MET as part of PSQR Verification Trials (PVT) have been completed.





Active Electronically Scanned Array Radar (AESAR) (Uttam)

Active Electronically Scanned Array Radar is a multi-function, multi-mode radar, adaptable to various fighter class of airborne platforms. The Radar is successfully flight tested for all modes and flight evaluation of radar on LCA Mk-1 has been completed. With the successful proving of this radar, technology for AESAR for fighter class aircrafts has been established. During Aug 2022, LAToT is signed with M/s HAL.

Ground Based Integrated EW Systems (DHARASHAKTI)

Dharashakthi is an Integrated EW system for deserts and plain sectors. Entities are realised & final system checks in progress. During Jun 2022, testing of interception and jamming were carried out.

Automatic Chemical Agent Detection & Alarm (ACADA)

Ion Mobility Spectrometry (IMS) technology based automatic chemical agent detector has been developed as per JSQR specifications. The device is of immense use in collective protection system for continuous monitoring of ships, building and other platforms. DRDO internal trials for ACADA Phase I & II for NBC RV Mk-II (tracked) have been successfully completed. Field evaluation trials of ACADA by User are under progress at different User locations.

Under Developmental Trial stage

Naval Anti-ship Missile (NASM-SR)

Short Range Naval Anti-ship Missile (NASM-SR) to be launched from Sea-King helicopter against ship targets is being developed. It is the first indigenous air launched anti-ship missile system being developed for the Indian Navy. During May 2022, DRDO and Indian Navy conducted maiden flight test of Naval Anti-Ship Missile from Integrated Test Range (ITR), Chandipur.



Vertical Launch Short Range Surface to Air Missile (VL-SRSAM)

VL-SRSAM, a ship borne weapon system being developed for Indian Navy, is a vertical launch short range surface to air missile against fighter aircrafts, helicopter, UAVs etc. The missile has been developed for the Indian Navy for neutralizing various aerial threats at close ranges including sea-skimming targets. During Aug 2022, the missile was flight tested from ITR, Chandipur. The launch of the system was conducted against a high speed unmanned aerial target.

Akash-New Generation (NG)

Akash-NG, surface-to-air weapon system, is being designed and developed for providing air defence cover against fighter aircrafts, helicopters, UAVs and sub-sonic cruise missiles. It is required to defeat anti-radiation missile and stealth aircrafts from short to medium ranges. The system with canisterised launcher and much smaller ground system footprint has been developed with better deployability compared to other similar systems. During Jun 2022, Akash-NG guided mission was flight tested at ITR Chandipur.



Akash Prime

Akash weapon system is a surface to air weapon system developed by DRDO. It is India's first tactical missile system which has been developed, produced and delivered to Indian Air-force and Indian Army. In comparison to existing Akash weapon system, the 'Akash Prime' is equipped with indigenous active Radio Frequency (RF) seeker for improved accuracy. During 2022, configuration of launcher and other ground system are finalised and realisation of these prototype systems is under progress

MRSAM for Indian Army

MRSAM is a Surface-to-Air Missile developed jointly by DRDO and Israel Aerospace Industries (IAI), Israel for the Indian Army. The MRSAM Army weapon system comprises multi-function radar, mobile launcher system and other vehicles. During Mar 2022, four flight tests were conducted.



Agni-4

A successful launch of the Intermediate Range Ballistic Missile 'Agni-4' was carried out during Jun 2022 from APJ Abdul Kalam Island. The missile uses a three-stage solid fuel engine. The launch validated all operational parameters as also the reliability of the system

Agni Prime Ballistic Missile

Agni Prime is a two-stage canisterised solid propellant ballistic missile with dual redundant navigation and guidance system. During Oct 2022, the missile was flight tested from Dr. APJ Abdul Kalam Island.



Ballistic Missile Defence Interceptor

DRDO conducted a successful maiden flight test of Phase-II Ballistic Missile Defence (BMD) interceptor AD-1 missile from APJ Abdul Kalam Island during Nov 2022. AD-1 is a long range interceptor missile designed for both low exo-atmospheric and endo-atmospheric interception of long range ballistic missiles as well as aircraft. It is propelled by a two-stage solid motor and equipped with indigenously developed advanced control system, navigation and guidance to precisely guide the missile to the target.

Solid Fuel Ducted Ramjet (SFDR)

The state-of-the-art air-to-air missile powered with 'SFDR' propulsion enables the missile to intercept aerial threats at very long range at supersonic speeds. The missile is designed with an advanced propulsion system and is configured with nozzle-less booster, thrust modulation system and sustained to deliver specific impulse in ramjet mode. During Nov 2022, successful demonstration of Solid Fuel Ramjet operation with Fuel Flow Controller Actuation (FFCA) in flight was conducted from ITR, Chandipur.

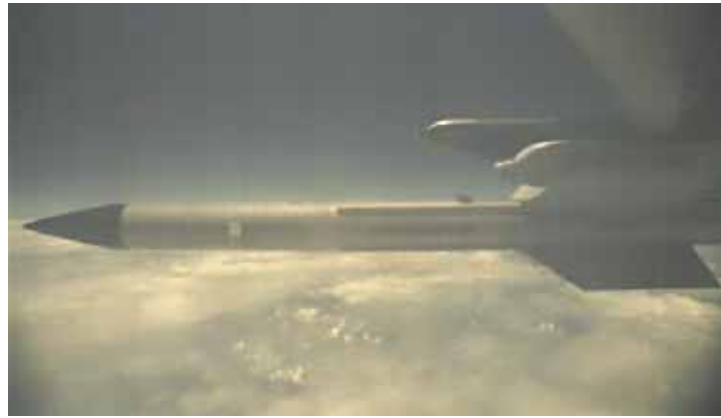


Very Short Range Air Defence System (VSHORADS)

VSHORADS is a 4th generation system compared to contemporary Man Portable Air Defence System (MANPADS) 3rd generation systems. The indigenously developed VSHORADS weapon is technically superior to exiting MANPADS as it employs state of art uncooled imaging infrared seeker. During Sep 2022, DRDO conducted maiden developmental flight tests of VSHORADS Missile from ITR Chandipur.

Astra Mk-II

Beyond Visual Range Air-to-Air Missile 'Astra Mk-II' is being developed with double pulse solid motor propulsion system. During May 2022, Captive sorties from Su-30 MKI were conducted. The missile with rail launcher has completed carriage sorties covering full flight envelope of Su-30 MKI. Further during May 2022, the missile was again flight tested from Su-30 MKI for safe separation demonstration.



New Generation Anti-Radiation Missile (NGARM)

NGARM is the first indigenous air-launched anti-radiation missile. The missile is a potent weapon for IAF for suppression of enemy air defence effectively from large stand-off ranges. It is designed to be launched from Su-30 aircraft and uses a dual-pulse propulsion system. During Apr 2022, performance of seekers was trial evaluated in carriage mode. Flight trial readiness

activities are under progress for conducting mission in Lock-on-Before-Launch (LOBL) mode to evaluate dual-seeker based guidance and warhead chain performance.

RudraM-II

RudraM II is a series of air to surface anti-radiation missiles being developed by DRDO. The missile has been designed & developed to be operational with Su-30 MKI fighter aircrafts. During Jun 2022, Release Flight Trials (RFTs) were conducted from Su-30 MKI fighter aircraft



Man Portable Anti-Tank Guided Missile (MPATGM)

MPATGM is a 3rd generation ATGM with 'Fire & Forget' and 'Top Attack' capabilities and the missile can be used by day and night. It is intended to be a replacement for 2nd generation MILAN and Konkurs ATGM in service with Indian Army. Maximum range trials were already completed. Minimum Range requirement is critical and demanding as the flight time available to act and guide the missile to the target is extremely less. During Jan & Apr 2022, successful demonstration for minimum range and near maximum range in guided flight test was carried out.

Long Range Guided Bomb (LRGB)

Long Range Glide Bombs are being developed in 1000 kg class & 500 kg class with PF & PCB warhead. During Oct 2022, technical development trials have been completed. The weapon was flight tested from SU-30 Mki aircraft and hit a land target. All design parameters are validated and Development cum Production Partners (DcPPs) have been identified.



Medium Altitude Long Endurance (MALE) UAV: TAPAS-BH'

TAPAS-BH, a multi-mission UAV is being developed with an endurance of 24 hours to carry out intelligence, surveillance and reconnaissance roles for the Armed Forces. It is capable of carrying electronic warfare, electro-optic & synthetic aperture radar (EO & SAR) and a variety of other payloads. TAPAS UAV has

multi-channel/multi-sensor data link system with Line of Sight (LOS) & Beyond Line of Sight (BLOS) capability for large area, high end ISR operation. The system has completed high altitude flight, long endurance flight, long range flight, and auto take-off. Indigenous Automatic Take Off & Landing (ATOL) technology in UAV was demonstrated for first time in the country. During 2022, more than 40 flight trials of TAPAS were conducted. HAL has started production of specified numbers of TAPAS UAVs.

High-Speed Expendable Aerial Target (HEAT) 'Abhyas'

HEAT 'Abhyas' is an expendable high-speed unmanned aerial target for all surface to air missiles. The configuration of Abhyas is designed on an in-line small gas turbine engine and uses an indigenously developed MEMS-based navigation system for its navigation and guidance. During 2022, successful flight trials from ITR, Chandipur were conducted and all the major specification requirements have been validated. Development cum Production Partners (DcPPs) / Production Agencies (PAs) have been identified.





Stealth Wing Flying Testbed (SWiFT)

DRDO is developing a flying wing test bed to demonstrate the capabilities & technologies and maximum re-use of systems from other UAVs. During July 2022, SWiFT had undergone successful maiden flight. Operating in a fully autonomous mode, the aircraft exhibited a perfect flight, including take-off, way point navigations and a smooth touchdown.

70 T Tank Transporter

DRDO is developing 70 ton tank transporter for MBT Arjun Mk-IA. The design & configuration has been finalised and trailer is realised. During 2022, DRDO internal trials of semi-trailer were completed. Full trailer was displayed in Def Expo - 2022.



Development of CBRN RV(Tr) Mk-II

CBRN RV (Tracked) Mk-II for Chemical, Biological, Radiological and Nuclear (CBRN) role is being developed to detect, identify, monitor and mark areas contaminated with CBRN agents and transmit this information speedily to supported formations. During Jun and Nov 2022, phase I & phase II of DRDO internal trials were completed respectively. The prototype was also displayed in Def Expo - 2022.

Family of 40 x 46mm Grenades

DRDO has taken up design & development of family of 40x46 mm grenades for Under Barrel Grenade Launcher (UBGL)/ Multiple Grenade Launcher (MGL). Development of fuzes and grenades are being done through DcPP. During Sep 2022, User trials of High Explosive Anti Personal (HEAP) Grenade for CAPF have been completed and the store is recommended for induction. Developmental trials of High Explosive Duel Purpose (HEDP) and Rocket Propelled (RP) grenades are under progress.

Kaveri 'Dry' Engine (KDE)

During 2022, the first prototype engine performance was tested at GTRE ground test bed, before dispatch for Altitude testing. Thereafter first phase of performance and operability demonstration of KDE - first Prototype engine at high altitude test facility has been completed. Second prototype Kaveri 'Dry' engine with new fan module, short jet pipe and indigenous Engine Fuel Control System (EFCS) was realised and performance tests has been carried out at GTRE test bed.

Small Turbofan Engine (STFE)

The STFE is being developed to meet the propulsion needs of unmanned air vehicles (UAVs). During Oct 2022, the engine was flight tested in the designated platform. Indian industry partners have been identified for manufacturing of components, major systems and LRUs and as lead integrator for the engine.

High Speed Epicyclic gearbox (HISPEL) is a high speed gearbox to step up the output from commercially available electric motor. This gearbox is intended to provide the drive to test the performance of units/ accessories fitted to small turbofan class of engines. During 2022, all the components were manufactured, inspected and first gearbox was assembled and tested.

Internal RWJ System for Jaguar DARIN-III Upgrade (D-JAG)

D-JAG is an integrated EW system for warning and jamming that encompasses Radar Warning Receiver (RWR), Electronic Communication Measures (ECM), Electronic Support Measures (ESM) functions and uses MPM based transmitters for jamming the enemy radars. The system detects and gives the information about the position of the RF sources illuminating the aircraft and applies the appropriate jamming technique. During Oct 2022, phase 1 limited multi-emitter flight trials for jammer evaluation were completed.

RWR and ESM system for Surveillance Platform (Navachakshu)

RWR and ESM LRUs are being realised to replace imported payload on AEW&C platform. The RWR system detects state-of-the-art radar signals and has inter-faces with Counter Measure Dispensation System (CMDS) and Missile Approach Warning system (MAWS). The system also provides location fixing of detected emitters. During 2022, RWR and ESM systems were installed on AEW&C platform and flight evaluated by IAF.

EW Suite for LCA-MK1A (Swayam Raksha Kavach)

The EW suite consists of state of the art Radar Warning Receiver (RWR) and Advanced Self-Protection Jammer (ASPJ). The RWR contains four channel wide band receivers and provides improved probability of detection and direction finding accuracy both for airborne and ground based radars. Limited ground and airborne emitters sorties for RWR + ASPJ configuration on LCA-LSP platform is under progress.

Air Droppable Container (ADC)-150

Realisation of Air droppable container (150 Kgs Payload) assembly fitted with Parachute system and aided with GPS for location identification & LED Beacon for night time recovery have been completed. Store separation studies for IL 38 SD are completed. During Apr 2022, ground drop trials from IL-38 SD aircraft were conducted at Goa.

CBRN Gloves Mk-II and Overboots Mk-II

DRDO has developed the CBRN Gloves Mk-II and CBRN Overboot Mk-II according to the joint QR of Service. These gloves and overboots are worn during the CBRN emergency scenario by the tri-services and paramilitary forces. Prototypes are fabricated in three different sizes of gloves and overboots. During 2022, wear ability trial has been conducted at CME, Pune.

Snow & Avalanche Hazard Assessment of Sikkim (SAHAS)

DRDO is engaged in development of 'SAHAS' to undertake avalanche hazard mapping of specific locations beyond snow line in Sikkim, provide regular avalanche & weather forecast, establish distributed network of observatories and automatic weather station, operationalize avalanche radar for detection of avalanches and suggest avalanche mitigation measures for highly susceptible locations. During Jul 2022, testing/ training trials of Airborne Snow Data Acquisition system held at Manali & Dhundi (HP)

Projects under Design & Development

Long Range Surface to Air Missile (LRSAM) for IN & IAF

Long Range Surface to Air Missile (LRSAM), being developed for Indian Navy and Indian Air Force, will be capable to neutralize the air-borne threats upto long ranges. The weapon system will also be capable of engaging sea-skimming, anti-ship missiles and anti-ship ballistic missiles. Design reviews have been completed in respect of sub-systems and rocket motors under realisation.

Light Combat Aircraft (LCA) Air Force Mk-II

LCA Mk-II is being designed & developed in its new configuration which has been optimised to improve its radius of action. In addition, many other improvements have been incorporated to reduce drag, increase air-to-air and air-to-ground weapon carriage capability. LCA Mk-2 in its new configuration is a much more capable aircraft in terms of performance and payload carrying capacity. Development of first prototype is under progress.

Airborne Early Warning & Control (AEW&C) Mk-II

The AEW&C Mk-II system is being built on A-321 aircrafts. The system will be equipped with superior intelligence suite and the system will have a longer endurance. This will enhance the surveillance and controls providing a force multiplier to Indian Air Force. The system is under development.

High Endurance Autonomous Underwater Vehicle (HEAUV)

HEAUV is like a mini submarine with capabilities of long endurance, autonomous ISR mission and limited combat capability. This multi-mission underwater vehicle can be used for detection of submarines, mines, intelligence, surveillance & reconnaissance, bathymetry & oceanography and detection of emergency beacons. Integration of Carrier -1 is under progress.

Optronic Submarine Periscope

Optronic Submarine Periscope consists of Optronic Sensor Head (OSH), Image Processing Unit (IPU) and Human-Machine Interface (HMI). Real-time image processing features i.e. automatic target detection & tracking, alerting, panorama generation and image fusion has been developed. During Jun-Jul 2022, phase-I field trials of lab unit were carried out with User participation.

Advanced SATCOM & Systems

Development of secure terminals & establishment of corresponding hub was undertaken by DRDO. Design has been completed and realisation of major subsystems is nearing completion. Hub antenna & RF front end have been installed in June 2022. DRDO designed antenna for Man Portable Satcom Terminals have been realised. Porting, integration and testing of software for terminals and hub are under progress.

Compact Transhorizon Communication System (CTCS)

CTCS is a man Portable Troposcatter Communication Suitable for Hilly terrain operations with higher data rate BLOS (60 Km) & LOS (100 Km) communication. Major sub-systems have been realised and integration through lead industry partner is under progress.

Multi Static Surveillance System (MSS)

Multi-static surveillance system aims to detect and track airborne targets with Passive Coherent Location Radar (PCLR), Multi-static Surveillance Radar (MSR) and Passive Emitter Tracker (PET) where the transmitters and receivers are geographically separated by a considerable distance. During Jan 2022, POC demonstration of Passive Coherent Location Radar (PCLR) system was completed. Performance optimisation is in progress.

Long Range Radar (LRR)

LRR, a state-of-the-art active array radar, is capable of detection and identification of ballistic missile class of targets, fire control and transmission of data to higher echelons. Major subsystems have been realised and stage-wise assembly of Active Array Antenna Unit (AAAU) is under progress.

Surface Wave Over The Horizon Radar (SW-OTHR)

Over The Horizon (OTH) radars are capable of detecting and tracking targets beyond the horizon and also provide the detections of target within the line of sight as provided by the microwave radars. Realisation of major subsystems is under progress.

Photonics Radar

This project aims is to realise and demonstration of photonics technologies consisting of photonics signal generation, wavelength division multiplexing (WDM) based distribution of RF, data & control signals and multi-channel photonics receiver. Realisation of sub-systems for radar is under progress.

Ground Based High Power Microwave (HPM) Directed Energy Weapon (DEW) System

The Ground based HPM DEW system is being developed to deliver high peak RF power to disable electronics of UAVs up to a large distance. During 2022, prototype of pulse power supply and backward wave oscillator and radiating system have been developed and tested.

Apart from above, a number of DRDO project are at various stages of design & development viz. Naval Anti-ship Missile (Medium Range), Long Range – land Attack Cruise Missile, Maritime Petrol radar, 600 hp Automatic Transmission, 1500 hp engine, Tactical Advanced Range Augmentation (TARA) Kit, Advanced laser Threat Detection System (ALTDS), NAG Mk-II, Advanced Armoured Platform (Tracked & Wheeled), Light Tank etc.

Major Infrastructure & Unique test facilities

National Open Air Range facility (NOAR)

DRDO has established Electronic Warfare (EW) test range, as a National facility at Kurnool, Andhra Pradesh for carrying out test and evaluation of EW Systems in communication and radar bands and high energy laser systems. NOAR is fully autonomous to carry out test and evaluation of systems being developed for the Tri-services, paramilitary forces and security agencies. The range is one of its kind in the country that serves the purpose of Nation's Defence preparedness by providing battlefield scenario. It is a national asset catering to the requirements of EW community towards realising state-of-the-art systems. During Dec 2022, Hon'ble President of India inaugurated National Open Air Range facility.



Maximum Microbial Containment Laboratory (BSL-IV)

DRDO has undertaken an infrastructure project to establish a dedicated Maximum Microbial Containment Laboratory (MMCL), that include a Bio-Safety Level -4 (BSL-4) laboratory for pursuing cutting edge bio-defence R&D. This will be a state-of-art nodal facility for research on biodefence preparedness and act as National Biodefence Referral Centre. It would provide effective biomedical control measures on national health security issues relevant to defence and civil sectors. During Dec 2022, Hon'ble President of India laid foundation stone for this facility.



Towed Array Integration Facility

During Jan 2022, Hon'ble Vice President of India laid Foundation stone of Towed Array Integration Facility at NPOL, Kochi. The facility is essential for de-velopment of towed array sonar systems, which is critical to underwater defence. The towed array sonar system will enhance the capabilities of Indian Navy in detecting quieter enemy submarines underwater.



Flight Control System (FCS) Facility

Hon'ble Raksha Mantri inaugurated a seven-storeyed Flight Control System (FCS) integration facility at a DRDO lab in Bengaluru on 17 Mar 2022. The FCS facility will support R&D activities for developing avionics for fighter aircraft and FCS for advanced medium combat aircraft. The complex has been constructed in record time of 45 days, with in-house hybrid technology consisting of conventional, pre-engineered and precast methodology.



RF Thermal Plasma Reactor (RFITPR) system for preparation of Metal / Metal Oxide Nanopowders

RFITPR system provides green technology for preparation of nano and spherical metal powders. This system has multidimensional applications including pilot scale preparation of nanomaterials, enrichment of purity and spheroidisation of such materials. The facility will be an asset to DRDO and such system would enable to acquire core competence and become self-reliant in the field of nanomaterials for innovative HEM compositions. During Nov 2022, Hon'ble Raksha Rajya Mantri inaugurated the facility.

Hull module of SPACE facility

The Hull Module of Submersible Platform for Acoustic Characterisation & Evaluation (SPACE) facility at NPOL, Kochi was ceremoniously launched during Nov 2022. It is a state-of-the-art testing & evaluation facility for sonar systems being developed for use by Indian Navy onboard ships, submarines and helicopters.

NABL Accreditation for Chemical Permeation Test Facility against Sulfur Mustard (HD-BTT)

DRDO/ DRDE successfully achieved the National Accreditation Board for Testing and Calibration Laboratories (NABL) accreditation for Chemical Permeation Test Facility against Sulfur Mustard (HD-BTT) as per ISO/IEC: 17025, 2017. With this accreditation DRDO/ DRDE Gwalior will be first in Asia and second in the world after US Army Edgewood Chemical Biological Center (ECBC) having the ISO/IEC: 17025; 2017 accreditation for testing of Chemical Defence Technologies and System.

CORPORATE INITIATIVES

Enabling Industry

Presently, DRDO has support from a huge industry base consisting of MSMEs along with DPSUs and large-scale industries. DRDO has taken major initiatives through various policies to involve the Indian industry as Development cum Production Partners (DcPP), offering its technology to the industry at nominal or zero cost and providing free access to its patents etc.

Technology Development Fund (TDF)

TDF Scheme is being executed to encourage participation of public/private industries especially Micro, Small and Medium Enterprises (MSMEs) and startups to promote self-reliance in defence technology as part of make-in-India initiative. During Jun 2022, funding under TDF Scheme has been enhanced from Rs 10 Cr to Rs 50 Cr to support the private industries for development of indigenous technologies.

TDF-Manthan was organised at Vigyan Bhawan during Aug 2022 to bring all stakeholders together to define the way ahead for the scheme to successfully utilise these opportunities. TDF-Manthan was organized in four sessions. The themes for the sessions were Opportunities & Challenges, Focus Areas & Themes for Technology & Product Development, Efficient & Effective Mechanism and Acquisition Process & Implementation.

During the year 2022, total 27 projects with a total cost of Rs 87.55 Cr have been awarded to various Industry, MSMEs, startups and at present a total of 63 projects with a total cost of Rs 267.52Cr are under TDF Scheme. 02 Projects have been successfully developed under this scheme. DRDO is working in excess of 130 more project requirements received from various components of MoD.

Development cum Production Partner (DcPP) / Production Agency (PA)

Indian industries are being engaged in DRDO projects as Development cum Production Partner (DcPP) / Production Agency (PA) in Mission Mode (MM) and System level Technology Demonstration (TD) Projects. So far, 90 DcPP/PA have been identified, out of which, 21 were identified during this year.

Transfer of Technology (ToT)

A total of 145 ToTs have been signed during this year. ToT of Granules for Biodegradable Bag as an alternate to Single use Plastic offered to industries with 'Nil' ToT fee. Ladakh Green House Technology received Prime Minister Award for Excellence in Public Administration under Innovation (State) category. The technology developed by DRDO was transferred to Agriculture Department, UT Ladakh.

DRDO Test Facilities

SOP for Industries to Access DRDO Test Facilities on payment basis has already been formulated and hosted on DRDO website. During this year, DRDO test facilities were utilised by a large number of Indian industries.

DRDO Industry Academia - Centre of Excellence (DIA - CoE)

DRDO has policy & mechanism for collaborative directed research in developing critical and futuristic technologies for defence and security applications through a network of DIA-CoE. These centres are established at premiere institutes in the country such as IITs, IISc and some Central Universities. This year, MoU has been signed for establishing six new DIA-CoEs at IITs (Jodhpur, Kanpur, Roorkee, BHU, Kharagpur and Hyderabad). Currently, there are 15 DIA-CoEs in 65 research verticals with participation of DRDO, Industry and Academia.

Dare to Dream

The Kalam Vision, Dare to Dream 4.0 (a pan India contest for promotion/support to innovators/startups against the defined requirement launched) was launched on 20 Oct 2022 by Hon'ble Raksha Mantri. Some major challenge areas of D2D 4.0 are Digital Twining of Human Organs, Plasmonic Application for Defence, and Countermeasures for Drone and Swarm of Drones, Collaborative Dual arm Manipulation for Robots & Cognitive Listening Device. Dare to Dream 1.0 (2019), 2.0 (2020) & 3.0 (2021) have been successfully conducted, wherein, more than 5000 applications were received, 86 technologies have been recognized and 392 lakhs worth of award money were awarded. Dare to Dream winner are also considered for further funding for their technology development under engagement of Start-ups under TDF.



Enhanced Integration with Academia

Currently, a total of 867 research projects are ongoing at a total cost of Rs 1183.19 Cr, engaging 1205 research scholars, 1104 faculties and 361 academic/R&D institutions/Universities across the country.

DRDO-MoE Collaborative Programme was rolled out for 500 PhD scholars to work on current problem areas related to Defence Technologies. Under this collaborative program, 39 PhD students have already started working at IITs & NITs in the areas of Defence Technology.

M.Tech and B.Tech (in elective courses) in Defence Technology areas are being continued in various AICTE approved institutes. M. Tech. in Defence Technology has been approved in 40 Universities/ Institutes, out of these, eight institutes have already commenced the courses.

Paid Apprenticeship Scheme has been initiated in DRDO labs. During 2022, 1,997 apprentices are undertaking training, in all trades, under the National Apprenticeship Training Scheme and further 1,111 apprentices are yet to join.

Internships to about 8000 B.Tech/ M. Tech/ M Sc students per year is being undertaken by DRDO labs.

Budget Announcement

In the Budget 2022-23, three announcements pertaining to DRDO were made (a) Defence R&D will be opened up for industry, start-ups and academia with 25% of defence R&D budget earmarked (b) Private industry will be encouraged to take up design and development of military platforms and equipment in collaboration with DRDO and other organisations through SPV model (c) An independent nodal umbrella body will be set up for meeting wide ranging testing and certification requirements. Further, to discuss on the budget announcements, a budget webinar 'Aatmanirbharta in Defence – Call to Action' was conducted on 25 Feb 2022. Hon'ble Prime Minister delivered the inaugural address of the webinar. The webinar breakout session consisted of four themes out of which two themes were conducted by DRDO. The budget announcement is being implemented through its existing schemes and proposed new schemes.



Social Outreach

MOU was signed with Ministry of Power to install early warning system for vulnerable hydropower stations located in disaster prone mountain regions.

MOU signed with Indian Meteorology Department (IMD), Ministry of Earth Science under which Doppler weather radar will be installed at Banihal Top in J&K.



DIHAR, a DRDO lab located in high altitude cold desert trans-Himalayan region of Ladakh, organised 29th 'Ladakhi Kisan Jawan Vigyan Mela' in Aug 2022 with objectives of disseminating technical know-how related to latest agro-animal technologies developed by DRDO among the local farmers and troops deployed in Ladakh sector. Training programmes on 'Agro-technologies', 'Exotic Vegetable Production' and 'Greenhouse Cultivation during winter' were conducted. DRDO also participated in 3rd Kisan Jawan Vigyanmela at Tawang, Arunachal Pradesh.



The Chenab Bridge is one of the construction marvels that has been developed with the help of DRDO making it blast-proof and earthquake tolerant.

DRDO participated in Humanitarian Assistance and Disaster Relief (HADR) exercise - SAMANVAY 2022 exhibition in Agra. Products & technologies related to disaster relief management were displayed by various DRDO labs.

A number of awareness programmes cum training courses were conducted, some of which are as follows:-

Special Avalanche awareness programme for the troops in Drass, Ladakh

Training course on Radiation medicines for Indian Navy Medical officers

Training on Chemical, biological counter measure to SPG.



Resettlement and Welfare of Ex-Servicemen



रक्षा मंत्रालय
MINISTRY OF
DEFENCE

सत्यमेव जयते

Department of Ex-Servicemen Welfare looks after Resettlement and Welfare of Ex-Servicemen and their families

RESETTLEMENT & WELFARE OF EX-SERVICEMEN

The Department of Ex-Servicemen Welfare (DESW) formulates various policies and programmes for the welfare and resettlement of Ex-Servicemen (ESM) in the country. The Department has two Divisions viz. Resettlement and Pension, and it has 3 attached offices namely, Kendriya Sainik Board (KSB), Directorate General (Resettlement) (DGR) and Central Organisation, Ex-Servicemen Contributory Health Scheme (CO, ECHS).

PENSION REFORMS

The Government orders and the detailed instructions relating to implementation of One Rank One Pension (OROP) along with tables indicating revised pension for each rank and each category, has been issued on January 04, 2023 and January 20, 2023 respectively. The Union Cabinet had given approval for the revision of pension of Armed Forces Pensioners/family pensioners under OROP w.e.f. July 01, 2019. More than 25.13 lakh (including over 4.52 lakh new beneficiaries) Armed Forces Pensioners/family pensioners will be benefitted. Estimated additional annual expenditure for implementation of the revision calculated as approx. Rs 8,450 crore @31% Dearness Relief.

The Government on November 04, 2022 has extended the benefit of provision of pro-rata pension to JCOs/ORs of the Defence Services who join/joined Central Public Enterprises/Central Autonomous Bodies/Central Public Sector Undertaking on permanent absorption/employment. This benefit was earlier available to the commissioned officers only. JCOs/ORs having not less than 10 years of qualifying service in Defence Service will now be entitled to receive pro-rata pension from the date of issue of the above order. The provisions of this letter will be applicable to those JCOs/ORs who are absorbed/appointed in Central Public Sector Enterprises/Central Public Sector Undertaking (on or after March 06, 1985) or Central Autonomous bodies (on or after March 31, 1987).

GRIEVANCE REDRESSAL SYSTEM

DESW makes concerted efforts to reduce grievances, bring down the disposal time, and promote dialogue and interaction with our ex-servicemen as also to sensitize the Rajya Sainik Boards (RSBs)/Zila Sainik Boards (ZSBs) for resolving the grievances of ex-servicemen. A dedicated Raksha Pension Shikayat Nivaran Portal (<https://rakshapension.desw.gov.in>) designed to speedily redress pension, including family pension-related grievances of ESM and their dependents was launched on January 14, 2022. The Department has a dedicated Pension Grievance Cell to look after the grievances of the ESMs/ Pensioners, which has resulted in better grievance redressal. Overall percentage of disposal of grievances is 97% and the data in this regard are available in the pgportal.gov.in. The impact of the above indicated initiatives, together with strict compliance with shorter timeline of 30 days for resolution of grievances and use of technology has resulted in reduction of average disposal time from 87 days in 2014 to less than 30 days in 2022.

WELFARE

Financial Assistance to States: KSB Secretariat is the apex body of the Government of India responsible for welfare of war-widows/disabled soldiers, ex-servicemen and their dependents. Financial assistance to States as Central share is given by the Department through KSB towards the establishment expenses of Rajya Sainik

Boards/Zila Sainik Boards (RSBs/ZSBs). Funding pattern is 75:25 in respect of special category States/UTs, namely, Arunachal Pradesh, Assam, Jammu and Kashmir, Ladakh, Meghalaya, Mizoram, Manipur, Nagaland, Sikkim, Tripura, Himachal Pradesh and Uttarakhand, and 60:40 in the case of other States/UTs. Govt of India also shares 50% cost of construction of Sainik Rest Houses (SRHs) out of the Defence Services Estimates (DSE) Budget. The SRHs are required to be maintained by State Governments/UT Administrations from their own resources/funds. A sum of Rs.114.72 crore has been disbursed to the States through KSB as Central share up to December 31, 2022.

Armed Force Flag Day Fund: Armed Forces Flag Day Fund (AFFDF) is meant for running schemes for welfare of Ex-Servicemen and their dependents. The fund is administered by KSB and donations to the fund are eligible for exemptions under section 80G of the Income Tax Act, 1961. The fund receives contributions from the Services, Corporates, PSUs and individual donors. The Fund has a corpus of Rs. 317.48 crore and a portion of the usable income accruing on the Corpus of the AFFDF is earmarked for the Raksha Mantri Ex-Servicemen Welfare Fund (RMEWF) Schemes.

RakshaMantri Ex-Servicemen Welfare Fund (RMEWF) Schemes. Financial assistance under RMEWF is provided from AFFDF for identified personal needs of ESM/their dependents, e.g. Penury Grant, Children Education and Marriage Grants, Medical Grant etc. During the financial year 2022-23 (till December 15, 2022), financial assistance of Rs.79.08 crore to 28,429 beneficiaries has been disbursed in favour of Ex-Servicemen / their dependents. Besides these, an amount of Rs. 78.79 lacs as financial to War Memorial Hostels and Paraplegic Rehabilitation Centre at Kirkee and Mohali have also been given. The periodic review of all the welfare schemes is being done and grant under the following schemes were enhanced:-

- (a) Enhancement of Mobility Equipment Grant from Rs. 57,000/- to Rs. 1,00,000/-.
- (b) Enhancement of Orphan Grant from Rs. 1000/-pm to Rs. 3000/-pm.

Gaurav Maah: Armed Forces Flag Day is celebrated on 7th December every year across the country to commemorate the sacrifices made by the armed forces. During the month long campaign celebrated as “Gaurav Maah” from December 1 to 31, 2022, various activities like telecast of T.V. spots, messages from celebrities/ icons, use of print / social media for creating awareness about the significance of the Flag Day etc. were undertaken.



Secy KSB pinning AFFDF flag to Hon'ble Prime Minister on December 7, 2022



Secy (ESW) with officials of KSB during the pinning AFFDF flag to His Excellency the President of India on December 7, 2022



Hon'ble RM presiding over Armed Forces Flag Day – CSR Conclave at Manekshaw Centre, Delhi Cantt on November 29, 2022



Hon'ble RM launching web portal for Armed Forces Flag Day – CSR Conclave on November 29, 2022

Launch of webportal for Armed Forces Flag Day Fund. An interactive and user-friendly webportal for the Armed Forces Flag Day Fund (affdf.gov.in) was launched by Hon'ble Raksha Mantri on November 29, 2022 to provide an easy and dedicated online mechanism for the contributions to AFFDF.

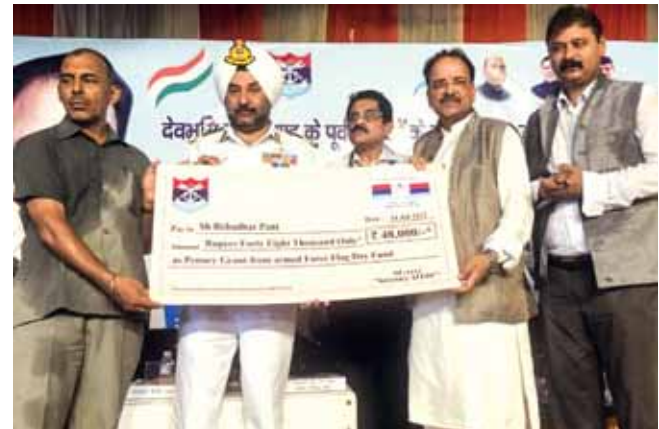
CSR Conclave A CSR conclave-cum-felicitation ceremony was conducted on November 29, 2022 at Manekshaw Centre, New Delhi with an aim to acknowledge the key contributors, as also to appeal, Industry and Corporate World for more-and-more contributions. A special nation-wide promotional campaign – “We for Veterans” with a veteran anthem was also launched in Radio FM and social media.

Prime Minister's Scholarship Scheme (PMSS): A total of 5500 scholarships are awarded annually under this Scheme to the wards and widows of Ex-Servicemen out of National Defence Fund which is administered by Prime Minister's Office. An amount of Rs. 37.66 crore has been disbursed to 11,165 beneficiaries during the FY 2022-23 (till December 15, 2022)

Outreach Karyakram. As part of the Azadi Ka Amrit Mahotsav, an Outreach Karyakram was organized at Haldwani, Uttarakhand on July 14, 2022 wherein Hon'ble Raksha Rajya Mantri was the Chief Guest and was attended by more than 1000 ESM of the area. The event was based on the vision of “Whole of Government Approach”, in which services offered by the Department of Ex-Servicemen along with its attached offices. Controller General Defence Account (CGDA), Local Command Formation and State Government Rajya Sainik Board, Zila Sainik Board and District Administration were showcased and grievances related to the Ex-Servicemen residing in the local areas were addressed.



Hon'ble RRM presiding over the Outreach Karyakram at Haldwani, Uttarakhand on July 14, 2022



Hon'ble RRM distributing the financial assistance Cheque to the beneficiaries

Reservation of Seats in Medical/Dental Colleges: Ministry of Health and Family welfare increased the quota of Government of India Nominee (MBBS and BDS) seats for the wards of Armed Forces Personnel (Serving/ESM). A total of 42 MBBS and 3 BDS seats were allotted and distributed by KSB for the academic year 2022-23 to the eligible students.

Revision of Guide Book of KSB. The KSB Guidebook edition was revised and launched on August 20, 2022, which is an amalgamation of updated version of all the previous editions. It provides knowledge and insight into all features and facets through specially designed user friendly approach.

Launch of Maa Bharati Ke Sapoot Portal. A user-friendly webportal “Maa Bharati Ke Sapoot” (MBKS) was launched by Hon’ble Raksha Mantri on October 14, 2022 to enable the public to contribute for the Armed Forces Battle Casualties Welfare Fund (AFBCWF).

Veterans Day: The Seventh Armed Forces Veterans’ Day was observed on January 14, 2023. The celebrations were up-scaled and major events were held at nine locations with Raksha Mantri presiding over the main function in Dehradun. The Veterans’ Day event at Chennai was presided over by Raksha Rajya Mantri. The celebrations in New Delhi, Jalandhar, Panagarh, Bhubaneswar, Mumbai, Jhunjhunu and Chandigarh were graced by Ministers and other Dignitaries. All State and District Civil Administrations were also requested to observe the Day with enhanced citizen participation. The officers of the Armed Forces, Next of Kin, Veterans and representatives of various Ex-servicemen organisations were honoured at these events.

Swachhata Campaign. Special Campaign was organized for swachhata and disposal of pending matters from October 2 to 31, 2022, with focus on reduction of pendency, overall cleanliness of office complex and efficient office space management. Monitoring and disposal of grievance, review of reference cases and special outreach programme at RSB/ZSB level were organized. Further, Swachhata Pakhwada was also organized during December 1-15, 2022 with message of sanitization & cleanliness messages, Posters and other informational material were shared widely to create awareness about importance of Swachhata.

RESETTLEMENT

Directorate General Resettlement (DGR) is mandated for re-settlement and rehabilitation of the Ex-servicemen (ESM), Disabled Soldiers, Widows and their Dependents. Due to operational and administrative reason, nearly 50,000 to 55,000 armed forces personnel retire/ are released from active service every year, most of them being in the comparatively younger age bracket of 35 to 45 years and need a ‘second career’ to support their families. Towards this, DGR is operating re-settlement schemes for these ESM/ Dependents.

Pre-Release/ Skill Development Course. DGR is mandated to organize and conduct Re-settlement Training / Skill Development Courses for retiring / retired Armed Forces personnel of all the three Services. These courses are aimed at enhancing their employability in civil/ corporate sector.

Pre-Release Course for Officers. For officers, courses are conducted at IIMs/similar premier management institutes. The duration of these courses varies from 02 weeks to 24 weeks. The fee for officers’ courses is shared by the Government and the individual officers in the ratio of 60:40. Efforts are being made to widen the scope and reach of these courses by empanelling new institutes and evolving courses which meet the requirement of the industry and aspirations of the ESMs.

Skill Development Courses for JCOs/OR and their Equivalents in IN & IAF. Skill Development and entrepreneurship development courses for JCOs/OR and their equivalents in IN and IAF are conducted in various Government Institutes pan India for a maximum duration of up to one year. Entire expenditure of the course fee for the ibid courses is borne by Govt of India/ MoD.

Project PUNAH-STHAPAN: Project PUNAH-STHAPAN was conceptualized and initiated to increase the number of employment opportunities for ESM in the civil job market. Phase I has already been completed and included Competency Mapping of Human Resources in Indian Armed Forces. Phase II is under process and involves Comprehensive Study on Civil Sector Employability and Skill Gap Analysis. Phase III will be completed after completion of Phase II and will Re-design Skill Development Courses to Bridge the Identified Skill Gap. On successful completion, this project will pave way for better employability of ESM in Government and Corporate Sectors.

Training During the FY 2022-23. A total of 308 Courses (including 30 Officers' Courses) have been scheduled to be conducted during the current FY 2022-23.

Employment Opportunities in Central Government for ESM. Central Government has provided following reservations quota in Government jobs for ESM towards their Re-settlement (Case has been taken-up to rationalize ESM reservation quota due to merger/ up-gradation of some Group 'D' posts to Group 'C' and some from Group 'C' to Group 'B':-

- (a) 10% of the vacancies in the posts up to the level of the Assistant Commandant in all Para-Military Forces (CAPF).
- (b) 10% of the vacancies in Group 'C' Direct Recruitment posts and 20% of the vacancies in Group 'D' Direct Recruitment posts in Central Government Departments.
- (c) 14.5% vacancies in Group 'C' posts and 24.5% vacancies in Group 'D' posts (including 4.5% for disabled ESM/dependents of servicemen killed in action) are reserved in Central Public Sector Undertakings.
- (d) 14.5% vacancies in Group 'C' posts and 24.5% vacancies in Group 'D' posts (including 4.5% for disabled ESM/dependents of servicemen killed in action) are reserved in Public Sector Banks.
- (e) 100% in Defence Security Corps (DSC).

ESM Sponsored for Employment. A total 7919 (01 Jan to 15 Dec 2022) Ex-Servicemen were sponsored to the various organizations (Govt./Pvt/ PSUs) for permanent/ contractual jobs (except self-employment schemes) through DGR and RSB/ZSBs.

DGR Security Agency Scheme. This is a 'Flagship' project of DGR that offers maximum employment to ESM. ESM (officers) are the proprietors of the ibid scheme with JCOs/ OR and their equivalent in IN/ IAF as Security Supervisor/ Guard. A total of 732 Security Agencies have been empanelled during the year and 32,240 ESM were provided employment under the scheme.

Schemes for Self Employment

Employment Opportunities through DGR. DGR operates re-settlement schemes for retired Officers, JCOs/OR and their equivalent in IA/ IAF, Disabled Soldiers, Widows and their Dependents for their employment and welfare. The major schemes and the number of beneficiaries through them in the year 2022 are tabulated below:-

Sl.No.	Scheme	No of Beneficiaries
(a)	Mother Dairy Milk Booth and Fruit & Vegetable (Safal) Shop	835
(b)	Management of CNG Station by ESM(Officer) in Delhi/NCR and Pune	37
(c)	Issue of DGR Eligibility Certificate for Allotment of LPG/Retail Outlet (Petrol/Diesel) against 8%Reservation Quota	01
(d)	Management of Company Owned Company Operated (COCO) Retail Outlets	45

Ex-Servicemen Job Fairs. An ESM job meet at Kolkata facilitated by Bengal Chamber of Commerce and Industry in association with DGR was conducted on December 09, 2022. 12 companies took part in the meet offering placements to ESM. More than 750 ESM participated in the job meet.

Empanelment of State ESM Corporations. In addition to the four State ESM Corporations namely Maharashtra Ex-Servicemen Corporation Ltd. (MESCO), Rajasthan Ex-Servicemen Corporation Ltd. (REXCO) & Himachal Pradesh Ex-Servicemen Corporation Ltd (HIMPESCO) and Uttar Pradesh Purv Sainik Kalyan Nigam Ltd (UPPSKNL), two more ESM Corporations namely Punjab Ex-Servicemen Corporation (PESCO) and Uttarakhand Purva Sainik Kalyan Nigam Ltd (UPSKNL) have been empanelled by DGR. This will qualify them to be sponsored as a 'Security Agency' for provision of guards in their parent States and, also other States which do not have their own ESM Corporations.

HEALTH CARE

Ex-Servicemen Contributory Health Scheme (ECHS) was launched with effect from April 1, 2003. ECHS aims to provide quality healthcare to ESM and their dependents through a network of ECHS Polyclinics, Service medical facilities and civil empanelled/ Government hospitals spread across the country. The scheme has been structured on the lines of Central Government Health Scheme (CGHS) and is financed by the Government of India. Endeavour is to ensure cashless treatment, as far as possible, by utilizing the empanelled hospitals for the veterans and their dependents. The total beneficiaries of the Scheme are approximately 55 lakh. The scheme has also been extended to Gorkha Domiciles with six Polyclinics in Nepal.

Construction of ECHS Polyclinics. On the occasion of Azadi ka Amrit Mahotsav, the Government has given in principle approval for construction of 75 Type C and D Polyclinics where land is already available.

Empanelment of Hospitals. A total of 3097 hospitals are currently empanelled under ECHS. With an aim to empanel quality hospitals, empanelment of Tata Memorial Hospital (TMH) at Mumbai, Vizag, Varanasi, Guwahati and Sangrur has been completed. MoU for empanelment of Government Medical Colleges and Hospitals/ Government Ayush Hospital is also undertaken.

Video Consultation. The SeHATOPD platform which was launched by the Hon'ble Raksha Mantri as a video consultation platform for serving and retired personnel is now being connected to ECHS database and software to facilitate seamless services and provide consultation from the comfort of the home for the ECHS beneficiaries. The Integration is in progress.

ECHS Management System: A team of IT consultants have been hired to initiate the process of development of an ECHS Management System and implement the services through a dedicated IT service provider.

Enhancement of the monthly monetary ceiling for purchase of Not Available (NA) medicines: The monthly monetary ceiling for purchase of Not Available (NA), emergent, life savings and essential drugs from Authorised Local Chemists (ALC) was also enhanced by 100% in all categories of polyclinics by the Government on June 30, 2022. This will ensure easy and timely availability of medicines for ECHS beneficiaries. (Type A & B from Rs 2.5 lakh to 5 Lakh, Type C from Rs 1.5 lakh to 3 Lakh, Type D from Rs 1 lakh to 2 Lakh).

Full reimbursement of Hospital Stoppage Rolls (HSR): The Government on 14 December, 2022, approved the policy of full reimbursement of HSR charged for treatment taken in Military/Armed Forces Hospitals by the ECHS beneficiaries. The dependent brothers/sisters, unmarried sisters and disabled children declared ineligible for treatment in Military Hospitals have to pay HSR charges. However, under ECHS, a primary beneficiary and his/her dependents are eligible to get cashless treatment. By approving the above policy, the above anomaly has been corrected.

Compendium. Compendium-I of Govt of India letters on ECHS and Compendium-II of Central Org ECHS letters were issued for the wider dissemination to Veterans and their dependents.



EMPOWERMENT AND WELFARE OF WOMEN

- A total of 1,648 Women Officers are presently serving in the IAF. In Indian Army, strength of women officers is 6993 and in Indian Navy strength is 748.



- **Women as Agniveers:** 100 women soldiers have been inducted through the AGNIPATH scheme in Indian Army and 100 vacancies each have been catered for in Agnipath scheme for the recruiting year 2022-23 and 2023-24. In the Indian Navy as part of AGNIPATH scheme, women have been enrolled as Agniveers commencing from the first batch itself. Furthermore, IAF has also invited application for induction of women Agniveervayu from batch starting in July 2023.



- **Entry of Girls Cadets in Sainik Schools:** Prime Minister Narendra Modi made an announcement during his Independence Day 2021 speech that all Sainik Schools, will be open for girls. All Sainik Schools have now started offering admission to girls and around 350 girls have been admitted across all the 33 Sainik Schools. Transformation of Sainik Schools from all-boys' schools to co-ed schools would further boost personality development in both boys and girls. This step can be seen as a first step towards entry of women in the National Defence Academy.



- **Enrolment of Girl Cadets in NCC:** To bring out parity in enrolment in NCC, landmark changes were adopted to enhance the girl's enrolment. Resultantly, the girl cadet enrolment had increased from 25.4% in 2013-14 to 37% in 2023.



- **Induction of Female Cadets in NDA.** 19 female cadets (ten for the Army, three for the Navy and six for the Air Force) were inducted for training at NDA (as first batch of female cadets) from Autumn Term 2022 commencing July 22 with 19 female cadets joining the Academy every six months.



FIRST 19 FEMALE CADETS INDUCTED IN NDA

- **Indian Army Recruits Seven Meritorious Sports Women.** Giving a major impetus to Indian Army's efforts to promote 'Nari Shakti', the Indian Army has recruited seven meritorious sports women into the Corps of Military Police as Direct Entry Havildars and as soldier General Duty (Sepoy) under its Mission Olympic Programme. Recruit Havildar Jasmine won a bronze medal in 60 kg boxing in the Common Wealth Games (CWG) in 2022. Recruit Havildar Sakshi (Boxing), Recruit Havildar Arundhati Choudhary (Boxing), Recruit Havildar Bhateri (Wrestling) and Recruit Havildar Priyanka (Wrestling) have created history by becoming pioneers to represent the Indian Army in women category at National Championship in Boxing and Wrestling by participating in the 6th Elite Women National Boxing Championship 2022 (19 to 26 December 2022) at Bhopal and Senior National Wrestling Championship (21 to 23 December 2022) at Vishakhapatnam.
- DPSUs operating within DDP have more than 2700 women employees (both officer and staff) working in it. Women are provided with equal opportunities in Recruitment, Career Progression, Learning & Development, Welfare measures etc.
- **UN Missions.** Indian Army is promoting participation of women soldiers in defence cooperation activities abroad. Indian Army deploys its largest contingent of women peacekeepers in United Nations mission at Abyei, UNISFA. 22% of the Indian Army's contribution of Staff Officers (SOs) / Military Observers (MILOBs) in UN Missions are women. With increase in intake of women in Indian Army, the proportion of women in UN contingents and other activities is set to rise further.



Army women contingent before flying to Sudan's Abyei to join the UN mission

- **Career Progression.** Towards ensuring equal platform for career progression, women officers were allowed to appear in competitive exam held in September 2022 for Defence Services Staff Course and Defence Services Technical Staff Course. Out of 22 women officers who appeared for the exam, six have passed and will be undergoing respective courses with effect from June 2023 to April 2024.





