

**MAJOR ACHIEVEMENTS OF MINISTRY OF DEFENCE FROM MAY 2014 TO  
PRESENT  
MINISTRY OF DEFENCE**

**EX-SERVICEMEN WELFARE**

The Department of Ex-servicemen Welfare formulates various policies and programmes for the welfare and resettlement of Ex-Servicemen (ESM) in the country, which are implemented through its three Attached offices namely, Kendriya Sainik Board Secretariat (KSB Sectt.), Directorate General (Resettlement) (DGR) and Central Organization, Ex-servicemen Contributory Health Scheme (ECHS). The KSB Secretariat is responsible for the welfare of Ex-Servicemen and their dependents and also for the administration of welfare funds. The office of Directorate General of Resettlement implements various Policies / Schemes / Programmes on pre and post retirement training, re-employment and self-employment etc. CO, ECHS takes care of the healthcare and medical needs of Ex-servicemen and their dependents.

**IMPLEMENTATION OF ONE RANK ONE PENSION (OROP)**

- Government of India had taken historic decision to implement OROP in November 2015 and issued orders on 07 November 2015 for implementation of OROP for the Defence Forces Personnel. Detailed instructions relating to implementation of OROP along with tables indicating revised pension for each rank and each category was issued on 03 February 2016.
- A sum of Rs. 10788.23 crore has been disbursed up to 30 September 2017 (compiled till 31 March 2018) to Defence Pensioners /Family pensioners on account of implementation of OROP and the instalment-wise bifurcation is as under:

No. of cases paid(1st instalment and lump sum payments)	Amount disbursed (Rs. in crores)	No. of cases paid (2nd instalments)	Amount disbursed (Rs. in crores)	No. of cases paid (3rd instalments)	Amount disbursed (Rs. in crores)	No. of cases paid (4th instalments)	Amount disbursed (Rs. in crores)
2060220	4172.64	1594311	2397.22	1576254	2322.68	1350319	1895.69

**Line of Actual Control (LAC) under Category 'D'**

The proposal for inclusion of 'accidental death/injury due to natural calamities while performing in operational duties/movements during deployment on Line of Actual Control (LAC)' under Category 'D' of Para 1 Clause (iii) of MoD letter No.2(1)/2011/D(Pen/Policy) dated 03 February 2011 has been approved and Government orders in this regard has been issued on 07 March 2018.

## DIRECTORATE GENERAL RESETTLEMENT (DGR)

- **Employment Generated by DGR:-** The details of employment generated by the DGR under various schemes in the last four years are as follows:-

Sl. No	Scheme	2014	2015	2016	2017
(a)	Security Agency Empanelled Number of ESM Sponsored	382 41764	322 23627	325 40863	458 33394
(b)	ESM Coal Company Sponsored	06	05	13	21
(c)	ESM & Widows/Disabled ESM attached in ESM Coal Company	96	220	213	194
(d)	Management of CNG	63	31	45	35
(e)	COCO Scheme (For BPCL/ IOCL/ HPCL)	499	131	29	66
(f)	Issue of Eligibility Certificates for allotment Oil Product Agencies	65	9	18	384
(g)	Mother Dairy Milk Booths/Safal Booth	211	303	296	320
(h)	ESM Placement by DGR (Emp Dte)	4957	5263	5126	9604
(j)	ESM Placement by Rajya Sainik Boards	13637	11988	15287	14622
(k)	ESM Employment by DSC	4615	4901	5473	4133

## ESM Job Fairs

- Details of DGR Job Fairs conducted so far are as under:-

Location	Date	Participation		Job vacs
		Corporate Employers	ESM	
Delhi	06-07 May 2015	83	2800	4000
Mumbai	11 October 2015	51	770	700
Guwahati	22 November 2015	12	600	100
Bangalore	10 January 2016	37	1462	1500
Pune	25 September 2016	49	1600	824
Ambala	26 October 2016	32	600	276
Lucknow	22 January 2017	38	2485	1200
Visakhapatnam	26 February 2017	42	2600	1150
Ahmedabad	09 July 2017	30	650	600

<b>Ranchi</b>	22 September 2017	27	1600	750
<b>Mumbai</b>	25 November 2017	45	1100	1000
<b>Secunderabad</b>	20 January 2018	35	1552	1493
<b>Kochi</b>	08 March 2018	32	1400	765

### Resettlement Training

- The details of resettlement training imparted for Officers & JCOs/OR during the last four years are as under:-

Category	2014-15	2015-16	2016-17	2017-18 (As on 31 March 2018)
<b>Officers</b>	616	658	585	464
<b>JCOs/OR</b>	29296	33950	4033 *9126	7440 *20136
<b>Total</b>	29912	34608	13744	28040

\* Courses at Regimental Centres being conducted by Service HQs.

### EX-SERVICEMEN CONTRIBUTORY HEALTH SCHEME (ECHS):-

- A total of 772 additional medical facilities have been empanelled with ECHS in last three years. Presently, a total of 2609 civil medical facilities are empanelled with ECHS across the Country.
- The country now has an elaborate network of ECHS covering 374 out of 716 district of the country. The ECHS Network comprises 28 Regional Centres and 426 polyclinics spread across length and breadth of the country. Out of these, all 28 Regional Centres and 424 Polyclinics have been operationalised. 44 polyclinics have been operationalised in the last three years.

### Welfare Measures

#### Policy

- Enhanced Penury Grant to non-pensioner Ex-Servicemen/Widows (above 65 years of age) from Rs. 1000 to Rs 4000 p.m. per beneficiary with effect from 01 April 2017.
- A new Fund namely, 'Army Battle Casualties Welfare Fund' has been set up under the Charitable Endowments Act, 1890 in the Ministry of Defence, D/o Ex-Servicemen Welfare to provide one time monetary assistance to the families of Army Battle Casualties. Financial assistance of Rs. 2 lakh is provided to the army battle casualties which are fatal, 60% and above disability and battle casualties invalidated out due to disability and Rs. 1 lakh to disability less than 60%. This is in addition to liberalized Family Pension, financial assistance from Army Group Insurance, Army Welfare Fund and ex-gratia amount.
- Enhanced Special Pension to Blinded Ex-Servicemen from Rs. 500 to Rs. 4000 per month with effect from June 2017.

#### Financial Assistance

- 1,28,689 beneficiaries were disbursed an amount of Rs. 222.05 crore during 2014-15 to 2017-18 under Raksha Mantri Ex-Servicemen Welfare Fund (RMEWF) for their identified personal needs e.g. penury grant, children education and medical grant. This has resulted in much higher user satisfaction amongst the ESM, and much fewer complaints.
- 57,545 beneficiaries were disbursed an amount of Rs. 146.99 crore during 2014-15 to 2017-18 under PM's Scholarship Scheme (PMSS). The number of scholarship has also been increased from 4000 to 5500.
- Disbursal of Central share to 22 States/UTs amounting to total of approx. Rs. 281.79 crore out of Defence Services Estimates.

#### **E-initiatives**

- Implemented 100% Direct Benefit Transfer (DBT) through Banks in respect of PMSS, RMEWF and other Schemes of AFFDF to rule out any fraudulent payments. The financial assistance is directly credited into the beneficiaries' bank accounts.
- Developed E-library system with basic functions and operationalized it for accessing of free e-content by ESM/their dependents from anywhere anytime.
- Integration of Digital Payment Modes with Armed Forces Flag Day Fund (AFFDF) account for easy transfer of contributions i.e. (i) creation of Paytm account (Account with Mobile No. 8800462175) (ii) generation of Bharat UPI QR Code.
- Extensive awareness generation campaign about the significance of the Armed Forces Flag Day celebrated on 07 December every year was undertaken through telecast of TV spots, messages from celebrities, Facebook, Twitter, leading Newspapers, DD National, Lok Sabha TV, Rajya Sabha TV during 01 to 07 December 2017. Due to our heightened efforts this year, during the campaign week alone, the donations from public were to the tune of Rs. 6.16 crore whereas during the last 2 to 3 years, the collections throughout the year have been Rs. 1 to 3 crore only. This money will be used for providing financial assistance to needy ESM/dependents.

#### **Facilities**

- Construction of Sainik Rest House at Naraina, New Delhi (SRH, Naraina) completed and SRH inaugurated by Raksha Mantri Shri Arun Jaitley on 23 July 2017. The SRH is helping in resolving boarding/lodging problems of ESM and their widows visiting Delhi.

### **DEPARTMENT OF DEFENCE PRODUCTION - INITIATIVES AND ACHIEVEMENTS**

#### **Recent Policy Initiatives & Achievements:**

- Two New Defence Industrial Corridors Announced in February 2018. One in Tamil Nadu which includes Chennai, Coimbatore, Hosur, Salem and Tiruchirappali and the other corridor in Uttar Pradesh which includes Agra, Aligarh, Jhansi, Chitrakoot, Kanpur and Lucknow.
- Industry Interactions: In Tamil Nadu at Hosur, Coimbatore, Salem, Chennai & Tiruchirappalli; In UP at Jhansi, Agra and Lucknow.

### **DefExpo India 2018:**

- The 10<sup>th</sup> Edition of DefExpo India was organised from April 11-14, 2018 and for the first time ever the event was organized in South India, near Chennai, Tamil Nadu. For the first time the event was held with the theme of projecting India as the emerging hub of defence manufacturing.
- The event witnessed the highest ever participation by Indian defence and Aerospace industry with 542 exhibitors.
- Biggest ever exhibition space sold out - 2.90 lakh sq ft., nearly 29 percent bigger than last DefExpo in 2016.
- **Significant business deals:** Salient MoUs signed & Transfer of Technology (ToTs) happened (total 40) – with DPSUs (16), India- Russia Business to Business MoUs (7), B2B MoUs (7) & ToTs (10).
- The event attracted tremendous local enthusiasm and highest footfall with nearly 3.5 lakh people visiting DefExpo and allied shows.

### **Innovations for Defence Excellence (iDEX) Scheme Launched:**

- To leverage the Start-ups ecosystem of the country to solve defence and aerospace related problems and help to engage Start-ups and MSMEs in aerospace and defence sectors.
- Network of Defence Innovation Hubs to come up throughout the country.
- Scheme was launched by the Prime Minister on 12<sup>th</sup> April 2018.
- Work on the First Innovation Hub started at Coimbatore in collaboration with CODISSIA.

### **Simplified 'Make II' Procedure:**

- It was approved in February 2018.
- For first time, opportunity for industry to propose products/services to the three Services i.e. Army, Navy and Air Force.
- Small projects involving prototypes of Rs 3 crores or lower, reserved for MSMEs. Reduces time of procurement by nearly one-third.
- Greatly enhanced certainty of procurement, once RFP is issued no retraction of RFP.
- Twenty seven projects under 'Make II' already in progress in 3 months.

### **Ease of Doing Business:**

- Defence Investor Cell set-up in January 2018 and nearly 100 investors facilitated in 100 days.
- Third Party Certification for HAL vendors launched in February 2018.
- 275 Ordnance Factory items de-notified, now available for production by the industry.
- Testing facilities of DPSUs & OFs opened up for private industry.
- Trade receivables Electronic Discount system (TreDS) under implementation in all Defence PSUs and all Ordnance Factories.

### **Disinvestment of DPSUs:**

- Disinvestment of three DPSUs - HAL (10%), BDL (12.5%) and MIDHANI (12.5%) successfully completed ushering in a new era of private public collaboration in Defence PSUs.
- BEL was also disinvested – 5% in 2016-17 and 1.71% in 2017-18.

#### **Engaging with Start-ups- National Level Open Challenge – ‘Solution to Problem’:**

- Open challenge competition ‘Solution to Problem’ hosted on 26<sup>th</sup> March 2018 during DefExpo India 2018.
- Real life problems of defence sector were posed -
  - Ejection Mechanism for Helicopters.
  - Nap of the Earth / Valley Flying using auto pilot due to GPS signal corruption in hilly areas / high rise buildings.
  - Location based tactical messaging collaboration platform.
  - Auto Identification of Drones/UAV.
- 492 responses were received and 8 prize winning solutions are being followed up.

#### **New Export Procedure issued:**

- Requirement of End User Certificate by Governments for exports of parts/ components removed.
- Simplified procedure for tender, exhibitions, testing, etc.
- With notification of ‘Munitions List’ under category 6 of SCOMET by DGFT, SOP approved by Raksha Mantri issued to facilitate exports of these items.

#### **Other Major Achievements of Private & Public Defence Industry:**

- 155 mm/52- calibre self-propelled howitzer gun – ‘Vajra’ showcased by L&T.
- L&T delivered first indigenously designed and manufactured high speed interceptor boat with twin water-jet propulsion system.
- Advanced Towed Artillery Gun System 155 mm/ 52 – calibre developed by DRDO with the help of M/s Kalyani Group, TATA Power and OFB.
- M/s TATA Motors showcased Wheeled Armoured Personnel Carrier.
- M/s Idea Forge, has developed a High Altitude UAV – NETRA PRO.
- Initial Operational Clearance of LCH of HAL in August 2017.
- DGCA approval to 19 seater Do 228 aircraft in December 2017, opens doors for use in UDAN scheme.
- Bridge Layer Tank – T-72 supplies commenced.
- Commissioning of Indigenous Scorpene INS-Kalvari on 14 December 2017 by the Prime Minister.
- Two indigenous ATGMs developed (Amogha-I & Amogha-II).
- Hindustan Shipyard Ltd. reported operating profits for the first time.

#### **Recent Major Achievement of OFB & DPSUs:**

##### **Ordnance Factories Board (OFB)**

- Up-gunning of 130 mm to 155/45 cal Gun
- Up-gradation of Air Defence Gun L-70
- BMP-II upgradation
- Bi-Modular Charge System (BMCS) development
- Commander’s Day Sight Cum Thermal Imager for T-72 tank

## **Hindustan Aeronautics Limited (HAL)**

- Indigenous Automatic Flight Control System (AFCS) in LCH developed and flown in January 2018;
- Production started at M/s Naini Aerospace Ltd (earlier HCL) in July 2017, a sick PSU taken over by HAL;
- 8 kg mini UAV handed over to CRPF;
- Successful integration & launch of BrahMos missile on Su-30 MKI;
- Eight Su-30 MKI, fourteen ALH and two LCA -Tejas manufactured by January 2018.

## **Bharat Electronics Limited (BEL)**

- Successful test firing of indigenously developed Quick Reaction Surface to Air Missile
- Successful test firing of indigenous Surface to Air Missile Akash-1S with BEL manufactured Radio Frequency Seeker;
- Central Acquisition Radar (Rohini) - 30 to IAF, order completed;
- Aslesha Radar - 21 to Army, order completed;
- 3D Tactical Control Radar - 29 to Army, order completed;
- L70 Gun Upgrade - 113 manufactured by January 2018;
- Schilka Tank Upgrade - 18 to Army by January 2018;
- Weapon Locating Radar - 18 to Army by January 2018;
- HHTI with LRF - 3319 to Army by January 2018;
- Ship borne EW System (Varuna) - 12 to Indian Navy by January 2018;

## **Bharat Dynamics Limited (BDL)**

- Final Integration of Akash-1S missile with seeker.
- Successfully executed the Milan-2T Contract of 5000 Nos
- Inauguration of Manufacturing Facility of Astra Weapon System at Bhanur Unit;
- Konkurs-M - ATGM - 504 supplied to Army by January 2018;
- MILAN-2T - ATGM - 4840 supplied to Army by January 2018;
- Akash Missile System - 1561 supplied to IAF & Army, by January 2018;
- INVAR - ATGM - 5103 supplied to Army by January 2018
- Indigenization of Missile systems-
  - Light Weight Torpedo (LWT-XP) - Level of Indigenization: 95%
  - AKASH Surface to Air Missile - Level of Indigenization: 96%
  - Heavy Weight Torpedo (Varunastra HWT-XP) - Level of Indigenization: 95%.
  - Indigenization of Anti-Tank Guided Missiles (ATGM) - Konkurs-M - 90%, Invar - 78.6%, Milan-2T - 71%

## **Bharat Earth Movers Limited (BEML)**

- High End Diesel Excavator BE1800D, rolled out by January 2018;
- Design & Development of Arjun Repair & Recovery Vehicle (ARRV) - 1 vehicle handed over, by January 2018;

## **Garden Reach Shipbuilders & Engineers (GRSE)**

- Anti-Submarine Warfare Corvette - 3 Ships delivered to Indian Navy by January 2018;

- Landing Craft Utility (LCUs) - 3 Ships delivered to Indian Navy by January 2018;
- Water Jet Fast Attack Craft (WJFACs) – all 4 ships delivered to Indian Navy;
- Fast Patrol Vessels (FPVs) – 1 ship delivered;
- Stealth Frigate – P17A – production started.

#### **Goa Shipyard Limited (GSL)**

- Detailed design of SLOPV. First ship delivered on 22 July 2017 ahead of contractual schedule;
- Detailed design of MFPV. 02 ships delivered successfully ahead of contractual schedule (26 September 2016 and 30 April 2017);
  - Indigenization of Heli grid taken up & completed;
  - Offshore Patrol Vessels (OPVs) for Coast Guard – 6 ships delivered;
  - Mauritius Project (FPVs) – 2 ships delivered – project completed;
  - 1000 T Fuel Barges for Indian Navy - 2 ships delivered – project completed;
  - Damage Control Simulator & NBC Training Simulator for Navy – Simulator delivered;
  - Sri Lankan OPVs - 2 ships delivered – project completed;

#### **Hindustan Shipyard Limited (HSL)**

- Developed in-house techniques for submarine repairs;
- Integration of propulsion system by innovative approach;
- Innovative design of ship side exhaust for Main Engine and Diesel Alternators;
- Inshore Patrol Vessel (IPV) for Coast Guard – at advanced stage;

#### **Mazagon Dock Shipbuilders Limited (MDL)**

- Establishment of Shore Integration Facility for Submarine and surface ships;
- Development of Power Management System on P15B Destroyers;
- Virtual Reality Laboratory for 3D soft model of ships;
- Manufacturing of 150T block of P17A project;
- P-15B/ Destroyer – 2 ships launched, Outfitting in progress;
- P-17A/ Stealth Frigates – production commenced in February 2017;
- P-75/ Scorpene Submarines – 1<sup>st</sup> Ship commissioned, 2nd ship under trials;

#### **Mishra Dhatu Nigam Limited (MIDHANI)**

- Naval application – Forgings for Navy
  - Weld Consumables
  - Cupro Nickel tubes
- Defence application : Armour Steel



**TOTAL CONTRACTS SIGNED DURING LAST 4 YEARS**  
**A: TOTAL CONTRACTS: INDIAN + FOREIGN VENDORS**

Service	2014-15		2015-16		2016-17		2017-18	
	No. of contracts	Value (Rs. In crore)	No. of contracts	Value (Rs. In crore)	No. of contracts	Value (Rs. In crore)	No. of contracts	Value (Rs. In crore)
Army	21	10109.86	22	8481.04	11	12588.06	25	31935.39
Air Force	07	3438.44	13	33626.08	11	63582.54	05	3257.88
Navy	19	51311.22	26	5770.17	24	18388.93	20	5497.70
<b>Total</b>	<b>47</b>	<b>64859.52</b>	<b>61</b>	<b>47877.29</b>	<b>46</b>	<b>94559.53</b>	<b>50</b>	<b>40690.97</b>
<b>Total Contracts: 204</b>				<b>Total Value: 247987.31 crore</b>				

**B: Contracts signed with Indian vendors (No. of contracts and value)**

Service	2014-15		2015-16		2016-17		2017-18	
	No. of contracts	Value (Rs. In crore)	No. of contracts	Value (Rs. In crore)	No. of contracts	Value (Rs. In crore)	No. of contracts	Value (Rs. In crore)
Army	17	3552.55	19	7065.49	8	7474.33	19	31434.42
Air Force	5	1211.87	8	9467.61	3	268.10	1	175
Navy	7	48833.38	17	2172.44	12	5687.48	12	1726.42
<b>Total</b>	<b>29</b>	<b>53597.80</b>	<b>44</b>	<b>18705.54</b>	<b>23</b>	<b>13429.91</b>	<b>32</b>	<b>33335.84</b>
<b>Total Contracts: 128</b>				<b>Total Value: 119069.09 crore</b>				

**C: Contracts signed with Foreign vendors (No. of contracts and value)**

Service	2014-15		2015-16		2016-17		2017-18	
	No. of contracts	Value (Rs. In crore)	No. of contracts	Value (Rs. In crore)	No. of contracts	Value (Rs. In crore)	No. of contracts	Value (Rs. In crore)
Army	4	6557.31	3	1415.55	3	5113.73	6	500.97
Air Force	2	2226.57	5	24158.47	8	63314.44	4	3082.88
Navy	12	2477.84	9	3597.73	12	12701.45	8	3771.28
<b>Total</b>	<b>18</b>	<b>11261.72</b>	<b>17</b>	<b>29171.75</b>	<b>23</b>	<b>81129.62</b>	<b>18</b>	<b>7355.13</b>
<b>Total Contracts: 76</b>				<b>Total Value: 128918.22 crore</b>				

**INDIAN NAVY**

**CAPABILITY - ASSETS**

- **Commissioning of NOPV:** Naval Offshore Patrol Vessel (NOPV), Sumitra, built at GSL, Goa was commissioned in the Indian Navy on 04 September 2014.
- **Commissioning of Kolkata Class Destroyers:** Three Kolkata-class guided missile destroyers, namely Kolkata, Kochi and Chennai built at MDL, Mumbai were commissioned in the Indian Navy on 16 August 2014, 30 September 2015 and 21 November 2016 respectively.
- **Commissioning of Kamorta Class Corvettes:** Three Kamorta class stealth ASW Corvettes, namely, Kamorta, Kadmatt and Kiltan, built at GRSE, Kolkata, were commissioned on 23 August 2014, 07 January 2016 and 16 October 2017 respectively.
- **Commissioning of Water Jet Fast Attack Craft:** Four Water Jet Fast Attack Crafts, namely, Tarmugli, Tihayu, Tillanchang and Tarasa built at GRSE, Kolkata were commissioned on 23 May 2016, 21 October 2016, 07 March 2017 and 26 September 2017 respectively.
- **Commissioning of INS Astradharini:** INS Astradharini, Torpedo Launch Recovery Vessel (TLRV) built at M/s Shoft Shipyard Pvt Ltd, was commissioned on 06 October 2015 at Visakhapatnam.
- **Commissioning of Landing Craft Utility (Mk-IV):** LCU Mk-IV ships, L-51, L-52 and L-53 built by GRSE, Kolkata was commissioned on 28 March 2017, 21 August 2017 and 25 April 2018 respectively.
- **Commissioning of INS Kalvari:** Kalvari, the first submarine of Project-75, was delivered by M/s MDL to the Indian Navy on 21 September 2017. The submarine was commissioned on 14 December 2017 by the Prime Minister.
- **Induction of Aircraft:** The following aircraft have been inducted in the Indian Navy in the past four years:-
  - Five P8I LRMR ASW aircraft.
  - 20 MiG 29K aircraft (16 MK and 04 KUB).
  - 12 AJT Hawk aircraft.
- **Induction of Immediate Support Vessels:** 60 FICs have been inducted in the Indian Navy since April 2014 for patrolling the Offshore Development Areas (ODA) off India's Coast. The last and final batch was inducted on 28 March 2017.
- **Induction of Yardcraft:** In addition to the above mentioned vessels, 19 indigenously built yard craft including Ferry craft, Barges, Tugs, Battle Practice Targets and Grab Hopper Dredger have been inducted in the Indian Navy.
- **Launching of Ships:** During the last four years, the following ships have been launched:-

Sl No.	Project	Details	Launched On
1.	Project 15B	Visakhapatnam Mormugao	20 April 2015 11 September 2016

Sl No.	Project	Details	Launched On
2.	Project 75	Kalvari Khanderi Karanj	06 April 2015 12 January 2017 31 January 2018
3.	LCU (Mk-IV)	L-54 (Yard 2095) L-55 (Yard 2096) L-56 (Yard 2097) L-57 (Yard 2098) L-58 (Yard 2099)	23 March 2015 (Delivered 06 April 2018) 07 December 2015 12 March 2016 24 November 2016 16 December 2016

## 1. CAPABILITY – INFRASTRUCTURE / FACILITIES

- **INS Sardar Patel:** An Indian Naval base at Porbandar, was commissioned on 09 May 2015 by the Chief Minister of Gujarat. The commissioning of Sardar Patel has greatly enhanced the facilities for naval operations in the state of Gujarat.
- **INS Vajrakosh:** Commissioned on 09 September 2015 by the Raksha Mantri. The unit is located at approximately 25 km from Naval Base, Karwar and spread over an area of approx 580 acres. The primary aim of the unit is to enable delivery of missiles to ships on the Western Seaboard and establishing state-of-the-art testing/maintenance facilities for new generation missiles.
- **INS Vishwakarma:** Commissioned as a training establishment on 14 November 2015. The establishment is the Alma mater of Naval Architect Officers, Shipwright Officers, HA sailors and civilian design officers/ staff of constructor cadre of the IN. On an average, the unit undertakes training of about 35 officers and 260 sailors in a year.
- **INS Karna:** An Indian Naval base, was commissioned by the Chief of the Naval Staff at Visakhapatnam on 12 July 2016. INS Karna will serve as the operational base for the Marine Commandos on the East Coast.
- **P-8I Infrastructure at Rajali:** The infrastructure development for P-8I aircraft at INS Rajali for four conventional hangars for squadron, dispersals, Admin and tech building and Taxi links have been completed.
- **Creation of Directorate of Armament Production and Indigenisation:** A specialised Directorate of Armament Production and Indigenisation (DAPI) has been created under DGNAI, to enable focused attention on indigenous production and QA of Naval Armament (NA) stores

## 2. ACQUISITION / PROCUREMENT

- **Capital Acquisition Contracts:** IN has signed 87 capital acquisition contracts with Indian and Foreign vendors, amounting to Rs 77407.11 crore since May 2014. The major contracts include procurement of

seven P-17A Frigates, 22 Harpoon missiles, MLU of Kamov 28 helicopters, four P8I Boeing Aircraft, 12 Dorniers for Coastal Security, 16 Advanced Light Helicopters, Deep Submergence Rescue Vessels, eight Chetak helicopters, Simulator for P8I, 131 Barak Missiles, LRSAM system for IAC, Surface surveillance Radars, New Torpedo Defence System and augmentation of Repair Facilities at Naval Dockyards.

- **AoNs Accorded:** A total of 100 AoNs have been accorded by GoI/MoD for procurement of various weapons, sensors, equipment, etc. since May 2014. The major platforms/ equipment for which AoN has been accorded include five Fleet Support Ships, six Next Generation Missile Vessels, four Multi-Purpose Support Vessels (MPVs), one Survey Training vessel, ATDS Maareech and Varunastra Torpedoes. Further, IN was the first Service to receive AoN under the new categorisation, Buy (Indian – IDDM), promulgated in DPP-16.
- **Development of Indigenous CMS with State-of-the Art Technologies:** Indigenously developed CMS forms the backbone of Navy's Network-centric capabilities. Last four years have seen successful development and commissioning of new generation CMS Systems for various classes of Ships, including SNFs, P-17 Ships (Shivalik Class), P-28 (ASW Corvettes), P15-A (Kolkata Class Destroyers) and P-16A Ships (Brahmaputra Class). CMS for the first indigenous Aircraft Carrier (IAC P71) is presently being progressed.
- **Inertial Navigation System – Ship Application (INS-SA):** INS-SA was handed over to the Navy by DRDO on 24 March 2017.
- **Project Seabird:**
  - One of the largest Marine Works Project and critical enabling marine work involving dredging, quarrying and reclamation of land at Naval Harbour, Karwar was concluded on 02 March 2017 at a cost of Rs 899 crore.
  - The contract for largest residential accommodation package in Defence Services for construction of 2770 dwelling units and amenities was concluded on 26 December 2017 at a cost of Rs 1342 crore.
  - Design Consultancy and Supervision Contracts for Dockyard, Fleet Based Buildings & Armament Storage Facilities have been concluded.

### 3. IMPORTANT EVENTS

- **Prime Minister's Day at Sea:** The Prime Minister Shri Narendra Modi embarked INS Vikramaditya at sea on 14 June 2014. The PM witnessed a variety of naval operations. On that day, the PM in his speech dedicated the Ship to the service of the nation.
- **International Day of Yoga:** Indian Navy has been celebrating the International Day of Yoga to promote the cause of Yoga. Multifocal activities were organised for the benefit of all naval personnel and their families across all naval stations and units including onboard Indian Navy Ships / Submarines on deployment in various parts of the world.

- **International Fleet Review 2016:** The International Fleet Review 2016 (IFR-16) was conducted off Rama Krishna (RK) Beach, Visakhapatnam. A total of 97 ships including 70 ships anchored in six columns, seven ships in mobile column, three submarines, six ships in President column and 11 ships in logistics/ security groups participated in the event. IFR-16 saw participation of 24 ships from 21 foreign navies, 22 Chiefs of the Navies (CNOs) and 26 delegations from about 50 countries. Besides review by the President, there were interactions and exchanges on the sidelines among Chief of the Navies as well as officers and men. An International City Parade was conducted at the beachfront at RK Beach where marching contingents of the Indian Navy as well as other foreign navies participated. A Passage Exercise (PASSEX) was conducted on 09 February 2016 with a number of foreign warships before their departure to respective countries.

#### 4. PERSONNEL/ WELFARE

- **Grant of Permanent Commission (PC) to First Batch of SSC Officers:** Government of India / MoD has approved the grant of PC to first batch of SSC officers inducted in the Navy on 21 March 2016. Accordingly, 14 SSC officers (including seven women officers) inducted between 26 September 2008 and 31 December 2009 have been granted PC. This is the first time that PC has been granted to women officers in the Navy.
- **Opening Up Additional Avenues for Women Officers in the Indian Navy:** Government of India / MoD has approved induction of women SSC officers as Pilots in MR stream and in the NAI cadre of the Navy on 21 March 2016 in order to enhance the participation of women in the Indian Navy.
- **Skill Certification of Retiring Naval Personnel:** In accordance with the MoU concluded between MoD and Ministry of Skill Development and Entrepreneurship (MSDE) in July 2015, skill certification of retiring naval personnel under the 'Recognition of Prior Learning' (RPL) concept of the National Skill Development Corporation (NSDC) has been implemented in phases. In 2017-18, the programme covered nearly 80% of the retiring personnel.

#### INDIAN ARMY

- **Acquisitions:** Modernisation and capability development of Indian Army is taking place at a rapid pace. Contracts have been concluded so far with a total contractual value of Rs 29542.57 crore, which is unprecedented in the history of Capital Procurement. The total cash outgo for these cases amounts to Rs 3122 crore for Mechanised Forces, Infantry, Artillery, Army Air Defence & Army Aviation.
- **Emergency Procurement of Ammunition:** MoD Delegated Emergency Procurement process to VCOAS in October 2016. As a result of this

delegation done with a view to make up critical deficiency of Indian Army in an emergent manner, many contracts were finalized for various critical Ammunition, Armament, vehicles & spares item. The provision gave a fillip to the state of equipment holdings of Indian Army.

- **Army Design Bureau (ADB):** ADB was raised on 31 August 2016 with a charter 'to function as an Army interface with leading research institutions like the DRDO and IITs, Academia, DPSUs and the industry, enabling them to understand and appreciate user requirements in depth and paving the way for high quality research and product development'. The ADB has mapped the indigenous capabilities and capacities of the entire nation in the terms of technology, R&D and production for the DPSUs, Private Industry as well as various Academic Institutes. The ADB has been interacting with industries at various regional hubs and Technology Institutes/ R&D establishments across the country to help the industry and academia understand the modernization requirements of the Indian Army and for the Army to appreciate the capabilities / constraints of the industry/ academia. To engage the industry and academia, two compendiums of Problem Statements highlighting various equipment and technology related problems faced by the Indian Army were published. There has been a very heartening response from both the industry and academia and now we are in the process of finalizing the routes for productionising / developing the solutions found suitable for the Army.
- **Shri Amarnath Yatra (Op Shiva):** RR units and formations played a major role in ensuring peaceful conduct of the Yatra by early and tiered deployment, aggressive domination and sound intelligence network. Full assistance including medical cover was provided to facilitate the movement of the devotees.
- **Plantation Update Ecological Task Force (ETF) Battalions:** The nine ETF battalions are doing excellent work in the restoration of ecology in degraded and difficult areas of the country. These units have planted approximate 652.77 lakh saplings and covered an area of approximate 72618 hectares. The efforts of ETF battalions (Territorial Army) have been appreciated by one and all.
- **Kokrajhar:** Based on the requisition received from Civil Administration on 12 August 2017 for rescue & relief operation in Kokrajhar, two Army columns were deployed on the same day. 524 civilians were evacuated and the Army columns were de-requisitioned on 20 August 2017.
- **Construction of Railway Foot Over Bridge at Three Railway Stations in Mumbai (Maharashtra):** In the recent tragedy at Elphinstone Road Railway Station stampede at Mumbai had brought to fore the urgent need to address enhancement of infrastructure in term of construction of additional foot over bridges at selected local railway stations in Mumbai. Three foot over bridges were required to be constructed under 'Aid to Civil Authority' at following

railway stations in Mumbai, for which the total requirement works out to be seven sets of 110 feet Triple Single Bailey Bridge :-

- Elphinstone Road Railway Station - Three Sets.
- Curry Road Railway Station - Two Sets.
- Ambivili Railway Station - Two Sets.

### NATIONAL CADET CORPS (NCC)

Raised in 1948, the National Cadet Corps (NCC) having 14.2 lakh cadets on its rolls is the largest uniformed Youth Organisation, in the world today. Committed to development of character, discipline, leadership qualities, secular outlook and the ideal of selfless service amongst the youth of the country, NCC is marching ahead in its pursuit of grooming leaders of tomorrow.

#### **Adventure**

- During 2016, NCC Girl cadets successfully climbed the world's highest peak Mt Everest. Limca Book of World Records has published two records for Girls Expedition; for maximum number of women from a single country climbing the Mt Everest and maximum number of women to climb Mt Everest in a day.
- 20 girl cadets scaled technically challenging **Mount Ladakhi** - 5343 m in Himachal Pradesh and 05 boy cadets scaled difficult **Mount Jogin III** - 6116m in Uttarakhand during last year. 10 cadets conducted a unique, one of its kind, Horse Riding Rally of 150 km covering 30 villages in Haryana. In addition to displaying riding prowess, the expedition also undertook activities to support "Beti Bachao - Beti Padhao" along the route.

#### Social Service & Community Development Programmes:

- **Swachh Bharat Abhiyan:** This is one of the central themes of NCC activities this year. NCC has participated in the campaign pan India, in great numbers. Two major events under this programme wherein NCC made outstanding contribution are as under:-
  - **Swachhta Sankalp Se Swachh Sidhi:** 5,55,238 cadets participated in Essay Writing and 1,94,834 cadets took part in Film Making competitions organized by Ministry of Drinking Water & Sanitation. Six NCC cadets were awarded by the Prime Minister on 02 October 2017.
  - **Swachhta Hi Sewa:** The event was inaugurated by the President in Kanpur on 15 September 2017. A total of 11,53,750 cadets and staff (90% of enrolled strength) participated pan India in this event during the Swachhta Pakhwada from 15 September to 02 October 2017.

- **International Day of Yoga:** A total of 7,52,392 cadets and staff participated in 5,833 venues including 8000 cadets at Lucknow where national mass Yoga event was organized. A comprehensive Yoga Action Plan, drawn in April 2017, much appreciated by all was shared with MoD, Ministry of AYUSH and all NCC State Directorates.

## INDIAN AIR FORCE

- **Ex Gagan Shakti: 2018:** The IAF conducted a pan India Exercise Gagan Shakti-2018 from 08 to 22 April 2018. The aim of the exercise was real-time coordination and employment of air power in a short and intense battle scenario. IAF exercised its entire warfighting machinery to validate its concept of operations and war-waging capability. The focus of the exercise was to check the viability of IAF operational plans and learn meaningful lessons. All the laid down objectives were achieved.
- IAF has participated in 16 major international Air Exercises with Friendly Foreign Air Force during last four years (2014-2017). These have helped to project the professional image of IAF amongst group of Nations.
- **Induction of LCA:** Indigenously produced Light Combat Aircraft (LCA) was inducted into IAF on 01 July 2016. The Squadron has successfully participated in Republic day Flypast in 2017 and 2018. It has also participated in IAF exercise Ex Gagan Shakti and demonstrated its prowess in air combat and air to ground weapon delivery role.
- Two more Squadrons were re-equipped with Su 30 and resurrected. Rafale aircraft is expected to be inducted by 2019. Various new weapons like ASTRA, Brahmos, and SPICE-2000 were successfully integrated and fired from IAF aircraft.
- IAF has undertaken upgrade of MiG-29, Mirage 2000, Jaguar and AN-32 aircraft to enhance their systems, weapon delivery capability and survivability in operations.
- Major enhancement of the Ground Based Air Defence System has been achieved through induction of following systems in last few years:-
  - **Induction of Akash Missile System (AMS):** Akash Missile System (AMS) a state-of-the-art Surface to Air Guided Weapon (SAGW), has been indigenously designed and developed by Bharat Electronics Limited (BEL). IAF has inducted and commissioned eight Squadrons of AMS. The Akash Squadron has improved our deterrence capability against China in North East. This is also likely to boost our indigenous capability in developing future New Generation, Surface to Air Missile System.
  - **SPYDER:** Equipment of three Squadrons of SPYDER LLQRM have been inducted in the IAF. The extremely modern system boosts our terminal defence capability for IAF critical assets.



- **Long Range Surface to Air Missile (LRSAM):** Contract for 5 Firing Units LRSAM (S-400) is at negotiation stage with OEM Russia.

**Induction of Radar.** During last four years IAF has inducted transportable Medium Power Radars (MPRs), indigenous Rohini mobile Radars, Low Level Transportable Radars (LLTRs) and indigenous Low Level Light Weight Aslesha Mk I Radars to enhance the Op capability along the Eastern and Northern borders. In addition IAF is inducting few indigenous MPRs (Arudhra) and LLTRs (Ashwini) under 'Make' category. The User Trials of both Arudhra and Ashwini Radars have been successfully completed in June & December 2017 respectively.

- **Induction of MFCR/ LRTR:** IAF as the lead service for providing BMD protection of Delhi NCR has inducted one Multi Function Fire Control Radar (MFCR) in NCR and is in the process of deploying one Long Range Tracking Radar (LRTR). These Radars are being operationalised in coordination with PGAD, DRDO and are being operated and maintained from internal IAF resources till EC/PC sanction for raising two Units is available from PMO.
- **VLTR Project (NTRO):** Induction of two new Units for Very Long Range Tracking Radar (VLTR) systems were accorded by Government of India under MoU between NTRO and IAF for realizing Missile Monitoring System for detection of space borne threats in aid of Ballistic Missile Defence. Accordingly, first VLTR Unit was raised in 2017 and the system is operational.
- **ISR Assistance to Targets during 'Surgical Strike':** IAF RPAs, in addition to IA RPAs and other ISR assets, provided 24x7 surveillance to all designated targets before, during and post September 2016 strike for more than 15 days continuously.
- **Ordnance Factory Board (OFB) Supplies:** In last four years the supply of conv bombs from OFB has increased by 149%.
- **Procurements of Weapons During the Last Four Years:** The Wpns Sub Dte at Air HQ has signed various contracts for procurement of different types of air launched weapons in the last four years amounting to Rs. 2585 crore. This has led to improvements in the overall availability of weapons thereby enhancing the 'Op Potential' of IAF.
- **Wpn Procurement Under 10i:** In order to address the critical deficiency of weapons for 10 days of intense war, financial powers for procurement have been delegated to service HQs. Various procurement cases have been initiated under 10i. Materialisation of contracts under 10i would further improve the war waging capability of IAF during the next two years.
- **Brahmos SSM:** BrahMos Surface to Surface Missile System has been operationalised in IAF. This weapon system which has been deployed in Operational Commands provides flexibility to the commands in utilisation of appropriate war fighting assets with effectiveness.

- **Shortening of Decision Loop for Defence of Strategic Targets Against Aerial Threats:** A combined draft CCS Note on 'Realignment of VIP-89 area' and 'Shortening of Decision Loop for Defence of Strategic Targets Against Aerial Threats' was forwarded to MoD on 13 May 2016. After the approval of Raksha Mantri, the draft CCS Note was forwarded to PMO/ Cabinet Secretariat on 24 November 2017 for comments/ views. While Realignment of VIP-89 Area was cleared by the CCS, the issue of Shortening of Decision Loop is under consideration by the NSA.
- **Tackling Sub-conventional Aerial Threat in India:** IAF was actively involved in formulation of joint mechanism to tackle Sub-conventional Aerial Threat in India. IAF helped MHA, to formulate Standard Operating Procedure (SOP) for tackling threats from Sub-conventional aerial platforms both in Delhi NCR (issued on 02 August 2016) and in the Country (issued on 16 December 2016). IAF also helped MoCA, to formulate CAR on operations of Para/Hang gliders and Micro light (issued on 30 June 2016). The process of formulation of CAR for RPA/Drone operations in India is in final stages.
- **IACCS:** Commissioning and Operationalisation of Integrated Air Command and Control System (IACCS) pan IAF for seamless Air Surveillance and Air Defence Operations. All Ground and Airborne Sensors (AWACS, Aerostat & AEW&C etc.) including Civil Radar Networks has been integrated together to provide comprehensive Air Situation Picture (ASP) for minimising 'Sensor to Shooter' loop. Integration of various Surface to Air Guided Weapons (SAGW) with IACCS is in progress for providing 'one touch' weapon launch solutions from the Remote Command & Control Centres. Five IACCS Nodes were already operational at WAC and SWAC Area of Responsibility (AoR). IACCS system now has been installed at four nodes at CAC, EAC and SAC AoR to enable pan-India coverage for Air operations.
- **Induction of AEW&C:** First indigenously developed AEW&C aircraft has been inducted into IAF on 20 April 2017. The induction of AEW&C will be the first step towards achieving self reliance in the airborne surveillance technology and building up capabilities for AWACS India programme.
- **Contributions Towards Civil Aviation Growth:**
  - IAF has been actively involved with MoCA/AAI for sharing its airports and airspace for supporting the increased demands of civil aviation. Flexi Use of Airspace (FUA) has been the cornerstone for co-operation between military and civil authorities. In consonance with the Government of India policy regarding civil aviation and utilization of IAF assets towards national interests, IAF has opened up 30 defence airfields for joint use and extended watch hours of various IAF airfields to accommodate more number of civil scheduled flights.

- Seven Advanced Landing Grounds (ALG) have been operationalised in the north east and declared Joint User Airfields to enhance the connectivity of remote areas in north-east India.
- IAF is also supporting mission UDAN to connect remote un-served regions. Towards this additional IAF airfields have been offered for operation of civil flights as part of RCS.
- In addition to the existing network of ATS routes through IAF restricted airspaces, additional 19 Conditional Routes have been cleared to facilitate direct routing of civil airlines, thereby reducing the time of travel, saving of fuel and reducing the carbon footprint.
- **Development of new Airfield at Deesa:** Government has sanctioned development of new airfield at Deesa on 23 March 2018 to fill a wide gap in Rajasthan and Gujarat Sector. This airbase, located 130 Km from IB would not only enhance the radius of action of our strike aircraft, support Indian Army in their operations, but also would enable our air defence assets to intercept hostile aircraft, much before they inflict any damage. This would also enhance high and low level surveillance capability of IAF in this region. Besides could be used for connecting the remote areas by civil air.
- **Ground Based Mobile Elint System (GBMES):** In pursuance of enhancing the IAF's SIGINT capability Ground Based Mobile ELINT Systems are being indigenously manufactured. The System has been developed by DLRL and produced by BEL. First of the GBMES has been delivered to IAF in March 2018.
- **Development of Indigenous Operating System:** An Indigenously developed operating system named Vayusenix has been deployed across all the official Internet PCs of IAF. This has resulted in nil information security breach. Vayusenix was demonstrated to the President, Prime Minister and Raksha Mantri on 08 October 2015 and has been awarded with Certificate of Excellence from the Prime Minister.
- Following projects with status have been undertaken in the last four years for increasing the reliability and security of IAF communication network:-
  - IAF 3G WCDMA AFCEL Project - Made operational in Dec 2015
  - AMC of AFNET - Signed on 17 Aug 17
  - AFNET Phase-I Block-II - Completed on 24 Mar 18
  - Advance Landing Ground Communication Terminal (ALGCT) - Project execution in Progress
  - Troposcatter Communication Upgrade Project - Project execution in Progress
- AFCNWP is recipient of Prime Minister's excellence award for in-house development of Mausam Online module, which provides a very user friendly platform for all the operators to access valuable meteorological information. It

is capable of preparing Climatology of different weather elements for all the months i.r.o. Pakistan and China to undertake air ops requirements on two fronts threat. Extended range weather forecast upto 15 days in advance and high resolution point forecast upto 7 days has been prepared to meet all the operational requirements across Indian subcontinent.

- IAF has undertaken several HADR Missions since 2014 till date. It includes 13 international and 71 National HADR Missions.

#### **New Inductions**

- **Rafale:** The IGA for procurement of 36 x Rafale was signed on 23 September 2016. Delivery of the Rafale aircraft will commence from September 2019 and would be completed by April 2022.
- **Apache AH-64 Attack Helicopter:** A contract for procurement of AH-64E Attack Helicopters was signed with the Boeing Company, USA on 28 September 2015. Delivery of the helicopters is planned from July 2019 till March 2020.
- **Chinook Heavy Lift Helicopter:** The delivery of 15 Chinook helicopters will start from March 2019 and will be completed by March 2020.
- **Advance Light Helicopters:** ALH Mk-III and ALH Mk-IV have been inducted into IAF.
- **C-130J-30 Aircraft:** The additional C-130J-30 aircraft contracted through the USG has been operationalised. The IAF has also contracted for additional C-130J-30 aircraft as a replacement to the aircraft lost in the accident.
- **C-17 Aircraft:** The IAF has signed a LOA with USG for additional C-17 aircraft.
- **Dornier (DO-228) Aircraft with Flight Inspection System:** A contract for procurement of Dornier aircraft fitted with Flight Inspection System (FIS) was signed with HAL on 03 February 2016 on single vendor basis. The FIS would be utilized for calibration of Navigation Aids & other equipment installed as part of the Modernisation of Airfield Infrastructure (MAFI) project.
- **Surveillance Radar Equipment (SRE):** ATCR-33-S SRE Radars were procured from BEL under turnkey project in two phases. All radars have been delivered. An additional contract for procurement of four transportable SRE radars was signed on 23 August 2017. The delivery of these radars would commence by May 2019.

#### **Make in India Initiative**

- **Interaction with Indian Industry:** IAF has approximately 1000 vendors registered with it catering for IAF's diverse needs. Most of these industries are from MSMEs sector. Various seminars and interactions are being organized at regular interval to convey our indigenization requirements as well as to understand the industry's concerns. Take-aways from these interactions are being pursued by IAF at various levels. Recently, IAF participated in PITEX-2017 at Amritsar in December 2017, Defence Industry Development Meet at

Chennai in January 2018 and also in Def Expo 2018 in April 2018. Four more such seminars are planned in the current year.

- As part of indigenisation and drive to obtain key technologies, the MoD has been striving to include the private sector in production of defence equipment. Some of the procurement cases being progressed following the 'Make in India' route are:-
  - **Avro Replacement Aircraft:** A case for Avro replacement aircraft is being progressed with the objective of 'Make in India', where the foreign vendors were cleared to choose an Indian Production Agency from the private sector for manufacturing these aircraft in India. Under this scheme, few aircraft will be supplied in flyaway condition and the remaining would be manufactured by an Indian Production Agency (TASL).
  - **LCA Mk-1A:** The cases being progressed through the 'Buy Indian IDDM' route introduced in DPP-2016 and the RFP has been issued in December 2017 for procurement of additional LCA Mk-1A aircraft from HAL. In addition, IAF is fully supporting the development of LCA Mk2.
  - **Light Combat Helicopters:** The cases being progressed through the 'Buy Indian IDDM' route introduced in DPP-2016 and the RFP has been issued in December 2017 for procurement of 10 x Light Combat Helicopters Limited Series Production (LSP) from HAL.
  - **Akash Missile System:** Few Squadrons of Akash Missile System procured from BEL have been inducted in IAF. Procurement of seven additional Akash Squadrons under 'Buy Indian' category is under progress.
  - **Close in Weapon System (CIWS):** The case for CIWS is being progressed under 'Buy and Make (Indian)' category and the RFP has been issued in December 2017.

#### **Induction of Women in Fighter Stream of IAF.**

- IAF pioneered the induction of women in the Armed Forces. With available data on women officers of 20 years it was felt that the only domain that was left out for women i.e. fighter flying needs to be opened up on an experimental basis. The experimental scheme was opened up in December 2015 for a period of five years with an aim to meet the aspirations of young women of India. It also facilitates the IAF to examine its future combat employment philosophies and policies for employability of women in the flying branch, based on thorough analysis of this experiment.
- The first batch of three women fighter pilots was commissioned in June 2016. These three women pilots are presently undergoing training in different fighter squadrons. Two more women fighter pilots are undergoing Stage-III (F) training at AFS Bidar, and would move to fighter Squadrons in early 2019. The scheme is slated for review in December 2020 (after five years).

### **Online Examination System for Air Force Common Admission Test (AFCAT) and Scheduled Test for Airmen Recruitment (STAR):**

- Pioneering the digitisation of selection process, IAF marched up to be the first amongst three Services to digitise the induction platform for selection of potential candidates to IAF as an officer and airman. AFCAT with EKT is conducted twice a year in the month of February and August to select potential officer candidates for all branches in IAF except Met, Med & Dental branches. As part of e-Pariksha, an MoU has been signed between IAF and C-DAC on 31 October 2017 for Online Examination System for conduct of AFCAT and STAR.

### **National Skill Development:**

- In line with Government of India's prestigious Pradhan Mantri Kaushal Vikas Yojana (PMKVY) project, IAF in collaboration with NSDC has embarked upon skill certification of retiring air warriors of IAF through "Recognition of Prior Learning (RPL)" initiative. As a part of RPL, a total of 329 retiring air warriors from different trades have been successfully skill certified till date. Further, there is a plan to commence outsourcing of RPL activities to training partners of NSDC for conducting training at IAF premises.

### **Enhancing Combat Efficiency:**

- **Combat Training for Air Base Security:** Three Security Training Schools have been established from within the existing resources at Bhatinda, Naliya and Hasimara for providing combat training to air warriors for handling security contingencies at air bases. Combat training of air warriors is also undertaken by the Garud Commandos at field units. Approx 9000 air warriors have been provided combat security training till date.

### **Simplification of Pension Procedure:**

- PCDA (P) has issued circular 546. As per the circular the pensioner would no longer be required to visit the pension disbursing agency to activate the first payment of pension.

### **Critical Care During Air Evacuation:**

- 15 Patient Transfer Units (PTU) have been procured from 2014 to 2017 and placed under the control of Command Headquarters to facilitate air evacuation of critically ill patients from the ICU of a peripheral hospital to the ICU of a Tertiary care AFMS hospital . The system enables continuous in-flight critical care management of the patient. This has saved many lives.

### **DRDO**

#### **Induction of major DRDO products**

- **LCA Tejas** is India's first indigenous multi-role fighter aircraft designed and developed to meet the requirements of the IAF. It is an advanced technology, supersonic, light weight, all-weather, multi-role fighter aircraft designed for multiple combat roles. LCA Tejas was inducted into the IAF at a ceremony held at ASTE Bengaluru on 1<sup>st</sup> July 2016. Defence Acquisition Council (DAC) has

accorded Acceptance of Necessity (AoN) for 83 LCA Tejas Mk-1A aircraft at a cost of Rs. 50,000 crore which is the single largest approval for a DRDO developed system.

- **AEW&C system** consists of sensors mounted on an aircraft (Embraer-145) for locating and providing early warning to air and ground stations of airborne & sea surface targets and hostile emissions. Major functionalities of the AEW&C system have been established over more than 700 sorties. AEW&C in Initial Operational Capability (IOC) configuration was accepted by IAF and inducted in the IAF on 14<sup>th</sup> February 2017 during 'Aero India 2017' and deployed at IAF base Bhatinda for operational exploitation with effect from 20<sup>th</sup> April 2017. AEW&C aircraft flew for the first time in the Republic Day parade 2017.

#### **Handing over of major systems/ infrastructure facilities**

- **Aeronautical Test Range (ATR)** at Chitradurga, Karnataka has been operationalised with a 2 km runway. The range was dedicated to the Nation by Raksha Mantri on 28<sup>th</sup> May 2017.
- **Open Range Test Facility (ORANGE)** for full scale Radar Cross Section (RCS) evaluation and body mounted antenna measurements was inaugurated by Raksha Mantri at Dundigal on 15<sup>th</sup> October 2015.
- **'Akash' weapon system** has been dedicated to Indian Army on 5<sup>th</sup> May 2015 and to the Indian Air Force on 10<sup>th</sup> July 2015.
- **Seakeeping and Maneuvering Basin (SMB)**, a world-class facility for comprehensive hydrodynamic model testing has been made operational. The inauguration and dedication of SMB to the nation by Raksha Mantri was held on 14<sup>th</sup> November 2015.
- A new torpedo launch and recovery vessel (TLRV) **INS 'Astradharini'**, which will be used for technical trials of underwater weapons and systems, was launched at Shoft Shipyard Pvt. Ltd., Bharuch, Gujarat on 27<sup>th</sup> December 2014. The ship has also been commissioned by FO-C-in-C (East) on 6<sup>th</sup> October 2015
- **'Maareech'**, a surface ship torpedo defence system capable of panoramic detection and automatic alert of an incoming torpedo was dedicated to the nation on 14<sup>th</sup> November 2015 by Raksha Mantri.
- **'Varunastra'**, a ship launched anti-submarine torpedo which features, autonomous guidance algorithms, insensitive munitions warhead and GPS based recovery aid for practice torpedo was handed over to the Indian Navy by Raksha Mantri on 29<sup>th</sup> June 2016.
- **'Abhay'**, an advanced active-cum-passive integrated sonar designed and developed for smaller platforms such as shallow water crafts and coastal surveillance/patrol vessels has been inducted into the Indian Navy.
- **'HUMSA UG'**, an upgrade to the existing HUMSA sonar system was accepted by the Indian Navy for installation on seven ships of three different classes of ships.

- **USHUS-2 Sonar** was handed over to the Indian Navy on 24<sup>th</sup> March 2017. USHUS-2 is a submarine sonar to be installed onboard four EKM submarines considering the long term requirements of the submarine arm and to combat the component obsolescence in the existing Russian sonars onboard these submarines.
- **'AIDSS'**, an advanced indigenous distress sonar system which is used to indicate that a submarine is in distress and enable quick rescue and salvage was accepted by Indian Navy for induction.
- **Near-field Acoustic Characterization System (NACS)** has been integrated with the HUMSA-NG sonar array and proved onboard Naval platforms and this will be fitted on all frontline ships. The system has been accepted by Indian Navy for induction.
- Three **Low Level Light Weight 3D Radar 'Aslesha' Mk-I** radar systems were delivered to IAF in February 2016 at a flag-off ceremony at BEL, Ghaziabad. A total of 21 radars have been delivered.
- DRDO on 2<sup>nd</sup> March 2017 formally handed over an indigenously developed First off Production Model (FOPM) **Weapon Locating Radar (WLR) 'Swathi'** to the Army.
- **A mountain foot bridge** for civil applications was handed over on 17<sup>th</sup> July 2014 for public use.
- The Prime Minister, Shri Narendra Modi inaugurated **Extreme High Altitude Test Laboratory** Phase 2 of the Kyrgyz-Indian Mountain Biomedical Research Centre (KIMBMRC) at Syok Pass, Kyrgyzstan at an altitude of 4020 m on 12<sup>th</sup> July 2015.
- **NBC Drugs** developed for CBRN emergencies in a kit form has been handed over to Indian Army by the Raksha Mantri.

#### MAJOR TRIALS OF ONGOING PROJECTS

- First successful launch of **LCA Navy aircraft (NP1)** from ski jump facility of SBTF at INS Hansa in Goa conducted on 20<sup>th</sup> December 2014. Naval Prototype (NP2) aircraft also successfully completed engine ground run with hot refueling drill on 24<sup>th</sup> March 2015 (first Indian fighter aircraft to undertake this activity).
- **Medium Altitude Long Endurance (MALE) UAV 'Rustom-II'** a multi-mission UAV is being developed with an endurance of 24 hours to carry out the intelligence, surveillance and reconnaissance (ISR) roles for the three Armed Forces. 1<sup>st</sup> block of User configuration flights commenced and two flights were completed in February 2018. Also, as on date, twelve design validation flights of Rustom-II from Aeronautical Test Range (ATR), Chitradurga has been carried out.
- The maiden canisterised trial of India's first intercontinental ballistic missile (ICBM) **Agni-5** was successfully carried out from the Wheeler Island on 31<sup>st</sup> January 2015. The second successful canisterised test of Agni-5 was carried



out on 26<sup>th</sup> December 2016. On 18<sup>th</sup> January 2018, Agni-5, was successfully flight tested for its full range. This was the fifth test of the Missile and the third consecutive one from a canister on a road mobile launcher.

- **Interceptor missiles** [Advance Air Defence (AAD) & Prithvi Air Defence (PAD)] are being developed by DRDO as a strategic weapon against ballistic missile attacks. During the last three years, two missions of PAD has been carried out, one on 27<sup>th</sup> April 2014 and another on 11<sup>th</sup> February 2017. AAD interceptor mission has been successfully conducted on 06<sup>th</sup> April 2015, 22<sup>nd</sup> November 2015, 15<sup>th</sup> May 2016 and 1<sup>st</sup> March 2017. The BMD System was once again successfully launched on 28 December 2017, scoring a direct hit. The spectacular success puts India in the league of a very few select nations world over in the arena of critical defence technology.
- **Long Range Surface-to-Air Missile (LRSAM)** having a range of 70 km is a joint development programme of DRDO and Israel Aerospace Industries (IAI), Israel for Indian Navy. After the demonstration of Operational Flight Tests (OFTs), first batch of LRSAM missiles were handed over to Indian Navy by DRDO in 2017.
- Supersonic Cruise Missile '**BrahMos**' is a two stage supersonic cruise missile having a flight range of up to 290 km and capable of carrying a conventional warhead weighing up to 300 kg. An enhanced version of 'BrahMos' with an extended range was test fired from ITR Chandipur on 11<sup>th</sup> March 2017. BrahMos was test fired from a Su-30 MKI aircraft for the first time on 22<sup>nd</sup> November 2017.
- '**NIRBHAY**' - India's first indigenously designed and developed Long Range Sub-Sonic Cruise Missile, which can be deployed from multiple platforms was successfully flight-tested in November 2017 from ITR, Chandipur.
- Various successful trials of Beyond Visual Range Air-To-Air Missile '**Astra**' have been carried out. Missile was successfully launched from Su-30 MKI fighter jet in two developmental trials on 20<sup>th</sup> May 2015.
- Anti-Tank Missile '**PROSPINA**' (**NAG**) is a 3<sup>rd</sup> generation Anti-Tank Missile with 'Fire & Forget' and 'Top Attack' capabilities, which can be used in day and night. It is deployed on a specially modified ICV BMP-2 vehicle called 'NAMICA'. During February 2018, two successful flight trials of 'Nag' were carried out.
- **Smart Anti Air Field Weapon (SAAW)** is long-range, stand-off, precision air-to-surface weapon (125 kg class) capable of engaging ground targets. Three release trials with different flight conditions were successfully conducted in November 2017 from Jaguar aircraft.
- First high altitude **Heavy Drop System (HDS)** trial successfully carried out in April 2015 at Leh which demonstrated a unique capability of dropping heavy payload in high altitude for the first time in India.

- 155 mm X 52 calibre **Advanced Towed Artillery Gun System (ATAGS)** has completed DRDO technical trials for two gun systems were completed in September 2017. Firing demonstration of both gun systems was also given to Raksha Mantri.
- **Air Defence Fire Control Radar (ADFCR) 'Atulya'** in conjunction with anti-aircraft guns, forms a ground based air defence system whose main purpose is effective point defence against all air threats at short and very short ranges during day and night. In January 2018, DRDO evaluation of the radar system was completed.
- Sea acceptance trials of 1<sup>st</sup> and 2<sup>nd</sup> **ESM 'Varuna'** Production Systems onboard INS Kirch and INS Kirpan completed in April 2017 and the systems have been cleared for exploitation. Production order has been placed by Navy for 18 systems.
- **Medium Power Radar (MPR) 'Arudhra'** has met all operational requirements and successfully completed all the three phases of User trials, including 100 hours endurance tests, at Kolar, Jamnagar and Gwalior. MPR 'Arudhra' participated in the Republic Day parade 2017 and is awaiting production order.
- DRDO has successfully designed **Bullet Proof Jacket (BPJ)** as per Indian Army Guidelines (GSQR 1438). The technological solution so developed has been transferred to M/s MKU, Kanpur.
- **Telemedicine System** after trials onboard INS Deepak, Gomati and Talwar with link to INHS Asvini, Western Naval Command, Mumbai, has been accepted for induction into all ships across Indian Navy in 2014. The capabilities of the Telemedicine System developed for the Indian Navy were demonstrated to the Prime Minister by Chief of Naval Staff (CNS) during Navy Day celebrations on 4<sup>th</sup> December 2015 in New Delhi.

#### **DRDO-Industry Interface**

- DRDO is working in close synchronization with the stakeholders through its programmes/projects. Today, over 1000 private industries and SMEs are vital partners in DRDO's development programmes apart from DPSUs and Ordnance Factories Board. Transfer of Technology (ToT) of military technologies are handled through in-house mechanism. DRDO has transferred several technologies to industries from private and public sector during the last four years. DRDO handed over total accrued ToT fee of Rs 192 crore arising from 290 ToTs to industries till date since 2015. (A record number of 112 ToTs were executed in 2017 and a record ToT fee of Rs 158 crore has accrued in this year alone till date breaking all previous records).

#### **DRDO and Academia**

- DRDO has created many Innovation centres across India. Some prominent of them includes JC Bose Centre for Advance Technology (JCBCAT) at Jadavpur University (JU), Kolkata, Centre of Propulsion Technology (CoPT) at IIT-Bombay and Joint Advanced Technology Centre (JATC) at IIT Delhi.

## INDIAN COAST GUARD

- **Commissioning of Indigenously Built Platforms Since May 2014:** Indian Coast Guard in consonance with 'Make in India' initiative of the Government of India has ensured that all its ships are indigenously built utilizing facilities of both Government and Private Shipyards. Since 2014, the ships have been built at Goa Shipyard Limited, Cochin Shipyard Limited, M/s L&T Shipyard, M/s ABG Shipyard and M/s Bharati Shipyard. Presently out of existing surface fleet strength of 137 ships/ boats, ICG has commissioned 64 ships during the preceding 04 years, since May 2014. Year wise details are as follows:-

Sl	Year	Ships Commissioned
(a)	2014 (since May)	14
(b)	2015	21
(c)	2016	10
(d)	2017	10
(e)	2018 (till date)	09
	<b>Total</b>	<b>64</b>

In addition, 60 ships are at various stages of construction at Indian Shipyards. The contract for acquisition of 16 State-of-the-Art ALH MK III helicopters was concluded with HAL, Bangalore on 29 Mar 17.

- The statistical data on multifaceted operational achievements of the Indian Coast Guard from 2014 - 2018 are as under:

### **FACT SHEET (from 01 Jan 14 to 31 MAR 18)**

Subject		(01 Jan 14 to 31 Mar 18)
Search and Rescue effort	Lives Saved at Sea	2582
	Missions undertaken	1011
	Ship Sorties	1271
	Aircraft Sorties	2035
MEDEVAC	Persons Evacuated	105
Coastal Security	Operations	227
	Exercises	85
	Community Interaction	3789
	Boarding Operations	132728
Extended EEZ Surveillance	No. of Deployment	13
	ICG units deployed	07
	Aircraft deployed	06
Anti Smuggling & Narcotics Control (ASNC)	Vessels Interdicted	13
	Crew Apprehended	123
	Value of Contraband Seized	Rs. 4130 Crores
	Incidents Reported	05

Oil Spill Incidents	Oil Spill compensation Received	Rs. 2,96,85,958.00
Apprehension of Foreign Fishermen & Fishing Boats		294 Crew, 39 Vessels
Repatriation of Fishermen & Fishing Boats		2,852 Crew, 173 Vessels

### **Fisheries and Environment**

- Planted over 40,000 trees across all coastal states to neutralize operational emissions. Regularly undertook coastal and beach cleanup missions across all coastal states.
- Pollution Response Operation during oil spill post collision between MT Dawn Kanchipuram and MT BW Maple off Kamarajar Port, Ennore on 28 January 2017.
- Approval of MoU for Regional Cooperation on the response to Oil and Chemical Pollution in the South Asian Seas Region on 28 March 2018.

### **IMO Commendation for Displaying Exemplary Bravery At Sea:**

- Bhrigo Muni Das, PTM, P/Nvk(ME), 05666-H was awarded with IMO certificate of bravery during IMO investiture ceremony on 21 November 2016 at IMO Headquarters, London.

### **Women Empowerment:**

- As a part of 'Women Empowerment', 07 women officers have been trained in operations of hovercraft/ Air Cushion Vehicles (ACVs) for the first time and have been appointed at various ACV Squadrons. Women officers are also being employed in combat roles specific to ICG which includes Pilots, Observers, Aviation Support Services in addition to other administrative/logistics duties. They are shouldering equal responsibilities vis-à-vis their male counterparts in all spheres including postings at remote forward located stations like Jakhau, Campbell Bay, Mandapam and Okha. Besides, these officers are also manning the Coastal Surveillance Network which plays a vital role in the overall Coastal Security Mechanism.

**Year wise status of the New Schemes - (Schemes/Programmes which are New in the NDA Government)**

Sl.	Name of the New Scheme		2014-18			
			2014-15	2015-16	2016-17	2017-18
01	Procurement of 16 Advance Light Helicopter (ALH) MK III from M/s HAL(HD), Bangalore at the cost of Rs 5126.39 Crore [including Performance Based Logistics(PBL)]	Budget Outlay	--	--	390.25 Cr	324.71Cr
		Targets achieved	--	--	390.25 Cr	324.71 Cr
		New Innovation/ Unique Feature, if any	--	--	Procurement includes Performance Based Logistics (PBL) for 05 years	

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