Indian Armed Forces: Important Details and Structure of Forces

INDIAN ARMY -

Army Size 1,129,900 Active personnel
960,000 Reserve personnel
158 Aircraft
62 Ballistic missiles Part of Ministry of Defence
Indian Armed Forces Headquarters New Delhi, India

The Indian Army is the land based branch and the largest component of the Indian Armed Forces.

According to the IISS, in 2010 the army had strength of 1,129,900 active personnel and 960,000 reserve personnel, making the Indian Army the world's largest standing volunteer army.

Its primary mission is to ensure the national security and defence of the Republic of India from external aggression and threats, and maintaining peace and security within its borders. It also conducts humanitarian rescue operations during natural calamities and other disturbances. The President of India is the Commander-in-Chief of the Army. The Chief of Army Staff (COAS), a General, is a four star commander and commands the army. There is typically never more than one serving general at any given time in the Army. Two officers have been conferred the rank of field marshal, a 5-star rank and the officer serves as the ceremonial chief.

The Indian Army came into being when India gained independence in 1947, and inherited most of the infrastructure of the British Indian Army that were located in post-partition India. The Indian Army is a voluntary service and although a provision for military conscription exists in the Indian constitution, it has never been imposed. Since independence, the army has been involved in four wars with neighbouring Pakistan and one with the People's Republic of China. Other major operations undertaken by the army include Operation Vijay, Operation Meghdoot and Operation Cactus. Apart from conflicts, the army has also been an active participant in United Nations peacekeeping missions.

Structure -

The army has strength of about a million troops and fields 34 divisions. Its headquarters is located in the Indian capital New Delhi and it is under the overall command of the Chief of Army Staff (COAS), currently General Bipin Rawat.

Initially, the army's main objective was to defend the nation's frontiers. However, over the years, the army has also taken up the responsibility of providing internal security, especially in insurgent-hit Kashmir and north-east.

Recently it has been proposed to enhance the strength of army by more than 90,000 to counter the increasing presence of Chinese troops along the LAC.
**Commands**

The army operates 7 operational commands. Each command is headed by General Officer Commanding-in-Chief with the rank of Lieutenant General. Each command is directly affiliated to the Army HQ in New Delhi. These commands are given below in their correct order of raising, location (city) and their commanders. There is also the Army Training Commanded abbreviated as ARTRAC. The staff in each Command HQ is headed by Chief Of Staff (COS) who is also an officer of Lieutenant General rank. Besides these army officers may head tri-service commands such as the Strategic Forces command and the Andaman and Nicobar Command.

Central Command, headquartered at Lucknow, Uttar Pradesh  
Eastern Command, headquartered at Kolkata, West Bengal  
Northern Command, headquartered at Udhampur, Jammu and Kashmir  
Southern Command, headquartered at Pune, Maharashtra  
South Western Command, headquartered at Jaipur, Rajasthan  
Western Command, headquartered at Chandimandir  
Training Command, headquartered at Shimla, Himachal Pradesh

**Combat Arms**

<table>
<thead>
<tr>
<th>Name</th>
<th>Director General</th>
<th>Center</th>
</tr>
</thead>
<tbody>
<tr>
<td>Armoured Corps</td>
<td></td>
<td>The Armoured Corps Centre and School, Ahmednagar</td>
</tr>
<tr>
<td>Regiment of Artillery</td>
<td>Lt General P K Srivastava, VSM</td>
<td>The School of Artillery, Devlali near Nasik</td>
</tr>
<tr>
<td>Corps of Army Air Defence</td>
<td>Lt General A K Sahgal, VSM</td>
<td>Gopalpur, Odisha.</td>
</tr>
<tr>
<td>Army Aviation Corps</td>
<td>Lt General P K Bharali, VSM</td>
<td>Combat Army Aviation Training School, Nasik.</td>
</tr>
<tr>
<td>Corps of Engineers</td>
<td></td>
<td>The College of Military Engineering, Dapodi, Pune</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Madras Engineer Group, Bangalore</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bengal Engineer Group, Roorkee</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bombay Engineer Group, Khadki near Pune</td>
</tr>
<tr>
<td>Corps of Signals</td>
<td></td>
<td>Military College of Telecommunication Engineering (MCTE), Mhow</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Two Signal Training Centres at Jabalpur and Goa.</td>
</tr>
<tr>
<td>Mechanised Infantry</td>
<td></td>
<td>Ahmednagar</td>
</tr>
<tr>
<td>Infantry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ordnance Corps</td>
<td>Lt General Amit Sarin AVSM, SM,</td>
<td>Secunderabad</td>
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<tr>
<td></td>
<td>VSM, ADC</td>
<td></td>
</tr>
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**Infantry Regiments in order of seniority within the Indian Army are:**

<table>
<thead>
<tr>
<th>Regiment</th>
<th>Regimental Center</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brigade of the Guards</td>
<td>Kamptee, Maharashtra</td>
<td>1949</td>
</tr>
<tr>
<td>Parachute Regiment</td>
<td>Bangalore, Karnataka</td>
<td>1945</td>
</tr>
<tr>
<td>Mechanised Infantry Regiment</td>
<td>Ahmednagar, Maharashtra</td>
<td>1979</td>
</tr>
<tr>
<td>Regiment</td>
<td>Regimental Center</td>
<td>Year</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>--------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Punjab Regiment</td>
<td>Ramgarh Cantonment, Jharkhand</td>
<td>1761</td>
</tr>
<tr>
<td>The Madras Regiment</td>
<td>Wellington, Udhagamandalam</td>
<td>1758</td>
</tr>
<tr>
<td>The Grenadiers</td>
<td>Jabalpur, Madhya Pradesh</td>
<td>1778</td>
</tr>
<tr>
<td>Maratha Light Infantry</td>
<td>Belgaum, Karnataka</td>
<td>1768</td>
</tr>
<tr>
<td>Rajputana Rifles</td>
<td>Delhi Cantonment, New Delhi</td>
<td>1775</td>
</tr>
<tr>
<td>Rajput Regiment</td>
<td>Fatehgarh, Uttar Pradesh</td>
<td>1778</td>
</tr>
<tr>
<td>Jat Regiment</td>
<td>Bareilly, Uttar Pradesh</td>
<td>1795</td>
</tr>
<tr>
<td>Sikh Regiment</td>
<td>Ramgarh Cantonment, Jharkhand</td>
<td>1846</td>
</tr>
<tr>
<td>Sikh Light Infantry</td>
<td>Fatehgarh, Uttar Pradesh</td>
<td>1857</td>
</tr>
<tr>
<td>Dogra Regiment</td>
<td>Faizabad, Uttar Pradesh</td>
<td>1877</td>
</tr>
<tr>
<td>The Garhwal Rifles</td>
<td>Lansdowne, Utrakhand</td>
<td>1887</td>
</tr>
<tr>
<td>Kumaon Regiment</td>
<td>Ranikhet, Uttarakhand</td>
<td>1813</td>
</tr>
<tr>
<td>Assam Regiment</td>
<td>Shillong, Meghalaya</td>
<td>1941</td>
</tr>
<tr>
<td>Bihar Regiment</td>
<td>Danapur Cantonment, Patna, Bihar</td>
<td>1941</td>
</tr>
<tr>
<td>Mahar Regiment</td>
<td>Saugor, Madhya Pradesh</td>
<td>1941</td>
</tr>
<tr>
<td>Jammu &amp; Kashmir Rifles</td>
<td>Jabalpur, Madhya Pradesh</td>
<td>1821</td>
</tr>
<tr>
<td>Jammu &amp; Kashmir Light Infantry</td>
<td>Avantipur, Jammu &amp; Kashmir</td>
<td>1947</td>
</tr>
<tr>
<td>Naga Regiment</td>
<td>Ranikhet, Uttarakhand</td>
<td>1970</td>
</tr>
<tr>
<td>1 Gorkha Rifles (The Malaun Regiment)</td>
<td>Sabathu, Himachal Pradesh</td>
<td>1815</td>
</tr>
<tr>
<td>3 Gorkha Rifles</td>
<td>Varanasi, Uttar Pradesh</td>
<td>1815</td>
</tr>
<tr>
<td>4 Gorkha Rifles</td>
<td>Sabathu, Himachal Pradesh</td>
<td>1857</td>
</tr>
<tr>
<td>5 Gorkha Rifles (Frontier Force)</td>
<td>Shillong, Meghalaya</td>
<td>1858</td>
</tr>
<tr>
<td>8 Gorkha Rifles</td>
<td>Shillong, Meghalaya</td>
<td>1824</td>
</tr>
<tr>
<td>9 Gorkha Rifles</td>
<td>Varanasi, Uttar Pradesh</td>
<td>1817</td>
</tr>
<tr>
<td>11 Gorkha Rifles</td>
<td>Lucknow, Uttar Pradesh</td>
<td>1918</td>
</tr>
<tr>
<td>Ladakh Scouts</td>
<td>Leh, Jammu &amp; Kashmir</td>
<td>1963</td>
</tr>
<tr>
<td>Rashtriya Rifles</td>
<td></td>
<td>1990</td>
</tr>
<tr>
<td>Arunachal Scouts</td>
<td>Shillong, Meghalaya</td>
<td>2010</td>
</tr>
<tr>
<td>Sikkim Scouts</td>
<td></td>
<td>2013</td>
</tr>
</tbody>
</table>

**Armour** -

There are 97 armoured regiments in the Indian Army. These include the following historic regiments dating back to the nineteenth century or earlier: 1st (Skinner's) Horse, the 2nd Lancers (Gardner's Horse), 3rd Cavalry, 4th (Hodson's) Horse, 7th Light Cavalry, 8th Light Cavalry, 9th (Deccan) Horse, 14th (Scinde) Horse, 17th (Poona) Horse, 15th Lancers, 16th Light Cavalry, 18th Cavalry, 20th Lancers, and the 21st (Central India) Horse. A substantial number of additional units designated as either "Cavalry" or "Armoured" Regiments have been raised since Independence.
**Services -**

<table>
<thead>
<tr>
<th>Name</th>
<th>Director General</th>
<th>Centre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Army Service Corps</td>
<td>Lt General Balbir Singh Sandhu</td>
<td>Bangalore</td>
</tr>
<tr>
<td>Army Medical Corps</td>
<td>Lt General Velu Nair, AVSM, VSM</td>
<td>Lucknow/Pune</td>
</tr>
<tr>
<td>Army Dental Corps</td>
<td>Lt General T K Bandyopadhyay</td>
<td>Lucknow</td>
</tr>
<tr>
<td>Army Ordnance Corps</td>
<td>Lt General Amit Sarin</td>
<td>Jabalpur and Secunderabad (HQ)</td>
</tr>
<tr>
<td>Corps of Electronics and Mechanical Engineers</td>
<td></td>
<td>Secunderabad</td>
</tr>
<tr>
<td>Remount and Veterinary Corps</td>
<td>Lt General A J Singh, VSM</td>
<td>Meerut</td>
</tr>
<tr>
<td>Military Farms Service</td>
<td></td>
<td>Military Farms School and Centre, Meerut Cantonment</td>
</tr>
<tr>
<td>Army Education Corps</td>
<td>Major General Sunil Chandra</td>
<td>Pachmarhi</td>
</tr>
<tr>
<td>Corps of Military Police</td>
<td></td>
<td>Bangalore</td>
</tr>
<tr>
<td>Pioneer Corps</td>
<td></td>
<td>Bangalore</td>
</tr>
<tr>
<td>Army Postal Service Corps</td>
<td></td>
<td>Kamptee near Nagpur</td>
</tr>
<tr>
<td>Territorial Army</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Defence Security Corps</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intelligence Corps</td>
<td></td>
<td>Pune</td>
</tr>
<tr>
<td>Judge Advocate General’s Department</td>
<td></td>
<td>Institute of Military Law Kamptee, Nagpur</td>
</tr>
<tr>
<td>Military Nursing Service</td>
<td></td>
<td>Pune and Lucknow</td>
</tr>
</tbody>
</table>

**Training -**

Training of new officers is carried out at National Defence Academy, Pune, Indian Military Academy at Dehradun, and Officers Training Academy at Chennai and Gaya, etc. There are also specialised training institutions like Army War College, at Mhow, Madhya Pradesh, High Altitude Warfare School (HAWS), at Gulmarg, Jammu and Kashmir, Counter Insurgency and Jungle Warfare School (CIJW), in Vairengte, Mizoram, College of Military Engineering (CME), in Pune. There is an Army Training Command (ARTRAC) at Shimla, whose main aim is to maximise the effectiveness of the training of personnel.

**Intelligence -**

**Directorate of Military Intelligence (India)**

The Directorate of Military Intelligence (DMI) is the Intelligence arm of the Indian Army. The MI (as it is commonly referred to) was constituted in 1941 and was initially created to check corruption in the Army’s own ranks. With time, its role has evolved into cross border intelligence, intelligence sharing with friendly nations, infiltrating insurgent groups and counter-terrorism. In the late 1970s, the MI was embroiled in the Samba spy scandal wherein 3 Indian Army officers were falsely implicated as Pakistani spies. The organisation has since emerged from the scandal as a
prime Intelligence organisation of the Indian Army. As of 2012, the MI has seen many of its roles taken away in a turf war with the newly created National Technical Research Organisation and Defence Intelligence Agency. However bypassing NTRO's controversies with MI, since it was set up in 2004, as a premier apex scientific agency, we cannot overlook its scientific prowess, under the National Security Adviser in the Prime Minister's Office, as it also includes the National Institute of Cryptology Research and Development (NICRD), which is first of its kind in Asia.

**Field formations**

Below are the basic field formations of the Indian Army:

* **Command:** Indian Army has 6 operational commands and 1 training command. Each one is headed by a General Officer Commanding-in-Chief (GOC-in-C), known as Army Commander, who is among the senior-most Lieutenant General officers in the army.

* **Corps:** A command generally consists of two or more corps. Indian Army has 13 Corps & each one is commanded by a General Officer Commanding (GOC), known as Corps Commander, who holds the rank of Lieutenant General. Each corps is composed of 3–4 Divisions. There are three types of corps in the Indian Army: Strike, Holding and Mixed. The Corps HQ is the highest field formation in the army.

* **Division:** Each Division is headed by GOC (Division Commander) in the rank of Major General. It usually consists of 3 to 4 Brigades. Currently, the Indian Army has 37 Divisions including 4 RAPIDs (Re-organised Army Plains Infantry Division), 18 Infantry Divisions, 10 Mountain Divisions, 3 Armoured Divisions and 2 Artillery Divisions.

* **Brigade:** A Brigade generally consists of around 3,000 combat troops with supporting elements. An Infantry Brigade usually has 3 Infantry Battalions along with various Support Elements. It is commanded by a brigade commander who is a Brigadier, equivalent to a Brigadier General in some armies. In addition to the Brigades in various Army Divisions, the Indian Army also has 5 Independent Armoured Brigades, 15 Independent Artillery Brigades, 7 Independent Infantry Brigades, 1 Independent Parachute Brigade, 3 Independent Air Defence Brigades, 2 Independent Air Defence Groups and 4 Independent Engineer Brigades. These Independent Brigades operate directly under the Corps Commander (GOC Corps).

* **Battalion:** Composed of four rifle companies. Commanded by a battalion commander who is a Colonel and is the Infantry's main fighting unit. Every infantry battalion also possesses one Ghatak Platoon.

* **Company:** Composed of three platoons. Commanded by a Company Commander who is a Major or Lieutenant-Colonel.

* **Platoon:** Composed of three sections. Commanded by a Platoon Commander who is a JCO.

* **Section:** Smallest military outfit with a strength of 10 personnel. Commanded by a Section Commander of the rank of Havaldar.

**Uniforms**

The Indian Army camouflage consists of shirts, trousers and cap of a synthetic material. Shirts are buttoned up with two chest pockets with buttoned up flaps. Trousers have two pockets, two thigh box pockets and a back pocket. The Indian Army Jungle camouflage dress features a jungle camouflage pattern and is designed for use in woodland environments. The Indian Army Desert camouflage, which features a desert camouflage pattern, is used by artillery and infantry posted in dusty, semi-desert and desert areas of Rajasthan and its vicinity.
The forces of the East India Company in India were forced by casualties to dye their white summer tunics to neutral tones, initially a tan called khaki (from the Hindi word for "dusty"). This was a temporary measure which became standard in Indian service in the 1880s. Only during the Second Boer War in 1902, did the entire British Army standardise on dun for Service Dress. Indian Army uniform standardises on dun for khaki. The modern Indian Army wears distinctive parade uniforms characterised by variegated turbans and waist-sashes in regimental colours. The Gurkha and Garhwal Rifles and the Assam, Kumaon and the Naga Regiments wear broad brimmed hats of traditional style. Traditionally, all Rifle regiments and the Jammu and Kashmir Light Infantry (Jammu and Kashmir Rifles, Garhwal Rifles, Gurkha Rifles, and Rajputana Rifles) wear rank badges, buttons and blackened wire embroidered articles of uniform in black instead of the usual Brass (or gold) coloured as the original role of the rifle regiments was camouflage and concealment.

**Equipment**

T-72 tank
Most of the army equipment is imported, but efforts are being made to manufacture indigenous equipment. The Defence Research and Development Organisation has developed a range of weapons for the Indian Army ranging from small arms, artillery, radars and the Arjun tank. All Indian Military small-arms are manufactured under the umbrella administration of the Ordnance Factories Board, with principal Firearm manufacturing facilities in Ichhapore, Cossipore, Kanpur, Jabalpur and Tiruchirapalli. The Indian National Small Arms System (INSAS) rifle, which is successfully inducted by Indian Army since 1997 is a product of the Ishapore Rifle Factory, while ammunition is manufactured at Khadki and possibly at Bolangir. In 2014, Army chief General Bikram Singh said that if given sufficient budget support, the Indian Army might be able to acquire half the ammunition needed to fight in a major conflict by the next year.

HAL Rudra Aircraft - The Army Aviation Corps is the main body of the Indian Army for tactical air transport, reconnaissance, and medical evacuation, while Indian Air Force's helicopter assets are responsible for assisting the army troop transport and close air support. It operates around 150 helicopters. The Indian army had projected a requirement for a helicopter that can carry loads of up to 750 kg heights of 23,000 feet (7,000 m) on the Siachen Glacier in Jammu and Kashmir. Flying at these heights poses unique challenges due to the rarefied atmosphere. The Indian Army will induct HAL Light Utility Helicopter to replace its ageing fleet of Chetaks and Cheetahs, some of which were inducted more than three decades ago. On 13 October 2012, The defence minister has given the control of attack helicopters to Indian Army from Indian Air force.

**Future developments**

* F-INSAS is the Indian Army's principal infantry modernisation programme, which aims to modernise the army's 465 infantry and paramilitary battalions by 2020. The programme aims to upgrade the infantry with a multi-calibre rifle with an under-barrel grenade launcher and bulletproof jackets and helmets. The helmet would include a visor, flashlight, thermal sensors, night vision devices and a miniature computer with audio headsets. It will also include a new lightweight and waterproof uniform, which would help the soldier in carrying extra load and fighting in an NBC environment.
* India is currently re-organising its mechanised forces to achieve strategic mobility and high-volume firepower for rapid thrusts into enemy territory. India proposes to progressively induct as many as 248 Arjun MBT and develop and induct the Arjun MK-II variant, 1,657 Russian-origin T-90S main-battle tanks (MBTs). The army is procuring 2,000 pieces of night vision devices for T-72 tanks for Rs 10 billion; 1,200 pieces for T-90 tanks for Rs 9.60 billion and 1,780 pieces for infantry combat vehicles for Rs 8.60 billion. It is also acquiring 700 TISAS (thermal imaging stand alone systems) and 418 TIFACS (thermal fire control systems) for its T-72 fleet at a cost of around $230 million. 300 Israeli TISAS were installed as part of several T-72 upgrade phases, followed by 3,860 image intensifier-based night-vision devices. 310 Russian produced T-90S Main Battle Tanks were also fitted with French Catherine TI cameras.
The Cabinet Committee on Security approved raising two new infantry mountain divisions (with around 15,000 combat soldiers each) and an artillery brigade in 2008. These divisions were likely to be armed with ultralight howitzers. In July 2009, it was reported that the Army was advocating a new artillery division. The proposed artillery division, under the Kolkata-based Eastern Command, was to have three brigades – two of 155 mm howitzers and one of the Russian "Smerch" and indigenous "Pinaka" multiple-launch rocket systems.

The major ongoing weapons programmes of the Indian Army are as follows:

### Tanks and Armoured vehicles

- **Arjun MK-III**
- **Futuristic Battle Tank (FMBT)** – The FMBT will be a lighter tank of 50 tons. At conceptual stage.
- **FICV** – Futuristic Infantry Combat Vehicle

**TATA Kestrel** - A modern armoured personnel carrier developed by Tata Motors and the Defence Research and Development Organisation (DRDO). It is developed with the intention to replace age old Soviet era BMPs and APCs in service with Indian army. Expected to join Indian Army by 2017. The Brahmos supersonic cruise missile is a crucial component of the Indian Army's strike capabilities.

### Missiles

- **Advanced Air Defence (AAD) missile launch, 2008**
- **Intercontinental Ballistic Missiles**
  - Agni-V – 5,000 km-8,000 km, Successfully Tested third time canistered version by DRDO on 31 January 2015.
  - Agni-VI – 8000–12,000 km range with MIRVed warheads. Currently in planning stage.

### Cruise Missiles

- Hypersonic missile
- Nirbhay Missile
- BrahMos – M

### Tactical Ballistic Missiles

- Prahaar (missile) – With a range of 150 km
- Shaurya (missile) – It has a range of between 750 and 1900 km.

### Anti-Tank Guided Missiles

- **Nag** Anti-tank guided missile – ground and air-launched variant.

The Indian Ballistic Missile Defence Programme is an initiative to develop and deploy a multi-layered ballistic missile defence system to protect India from ballistic missile attacks. It is a double-tiered system consisting of two interceptor missiles, namely the Prithvi Air Defence (PAD) missile for high altitude interception, and the Advanced Air Defence (AAD) Missile for lower altitude interception.

### Vehicles

- **Tata Motors** offers a full range 6x6, 8x8 and 12x12 multi-purpose high mobility carriers, designed especially for integrating specialist rocket and missile systems. Tata 2038 6x6 vehicle platform also stands qualified by the Indian Army for GRAD BM21 Multi Barrel Rocket Launcher (MBRL) application after rigorous field firing evaluation trials.
- **Mahindra Axe** – Light utility vehicle to be purchased.
The army needs 3,000 light support vehicles and 1600 heavy motor vehicles for mounting rockets and radar, and for reconnaissance and transportation at the cost of Rs 15 billion.

**Artillery**

Under the Field Artillery Rationalisation Plan, the army plans to procure 3000 to 4000 pieces of artillery at the cost of ₹200 billion (US$3 billion). This includes purchasing 1580 towed, 814 mounted, 180 self-propelled wheeled, 100 self-propelled tracked and 145 ultra-light 155 mm/52 calibre artillery guns. The requirement for artillery guns would be met with indigenous development and production.

**Small Arms**

Excalibur rifle – Replacement for the INSAS rifle in service.

Multi Caliber Individual Weapon System (MCIWS)

HAL Light Combat Helicopter

Modern Sub Machine Carbine – The Modern Sub Machine Carbine (MSMC) is the latest combined venture of ARDE & OFB, developed for the Indian Army on a platform of experiences from the INSAS rifle. RFI's worth ₹220 billion (US$3 billion) were issued for assault rifles, carbines, pump-action shotguns, sniper rifles, anti-material rifles, general purpose machine guns and heavy machine guns.

**Army Aviation**

Procurement process for 197 light utility helicopters (LUH) has been scrapped, of which 64 will be inducted in the Army Aviation to replace the Cheetak and Cheetah Helicopters.

HAL Light Utility Helicopter (LUH);— requirement for 384 helicopters for both the army and air force.

HAL has obtained a firm order to deliver 114 HAL Light Combat Helicopters to the Indian Army.

**FIELD FORMATIONS**

4 RAPID Divisions  
18 Infantry Divisions  
10 Mountain Divisions  
3 Armoured Divisions  
2 Artillery Divisions  
6 Air Defence Brigades + 2 Surface-to-Air Missile Groups  
5 Independent Armoured Brigades  
15 Independent Artillery Brigades  
7 Independent Infantry Brigades  
1 Parachute Brigade  
4 Engineer Brigades  
14 Army Aviation Helicopter Units

**SUB-UNITS**

63 Tank Regiments  
7 Airborne Battalions  
200 Artillery Regiments  
360 Infantry Battalions + 5 Para (SF) Battalions  
40 Mechanised Infantry Battalions
INDIAN NAVY -

IndiaNavy Size 58,350 personnel
181 aircraft Part of Ministry of Defence
Indian Armed Forces Headquarters New Delhi Motto Transliteration: Sham No Varunah (*May the Lord of the Oceans be auspicious unto us*)Colors Navy Blue, White Anniversaries Navy Day: 4 December Engagements Portuguese-Indian War
Indo-Pakistani War of 1965
Bangladesh Liberation War
Indo-Pakistani War of 1971

The Indian Navy is the naval branch of the armed forces of India. The President of India serves as the Commander-in-Chief of the Navy. The Chief of Naval Staff (CNS), usually a 4 Star officer in the rank of Admiral, commands the Navy.

Though the primary objective of the navy is to secure national maritime borders, India also uses its navy to enhance its international relations through joint exercises, port visits and humanitarian missions, including disaster relief. In recent years, the Indian Navy has undergone considerable modernization to replace aging equipment currently in service, this is often seen as part of "India's drive" to become a fully fledged blue-water navy. The 17th century Maratha warrior king Chhatrapati Shivaji Raje Bhosale is considered as the Father of Indian Navy.

Structure and Organization -

The Indian Navy is divided into the following broad categories:

- Administration
- Logistics and Material
- Training
- Fleets
- Naval Aviation
- Submarines

Organization

The Commander of the Navy is the Chief of Naval Staff (CNS), who holds the rank of Admiral. While the provision for the rank of Admiral of the Fleet exists, it is primarily intended for major wartime use and honour. No officer of the Indian Navy has yet been conferred this rank. The CNS is assisted in his role as commander of the Navy by the Vice Chief of Naval Staff (VCNS), a vice-admiral; the CNS also heads the Integrated Headquarters (IHQ) of the Ministry of Defence (Navy), based in New Delhi. The Deputy Chief of Naval Staff (DCNS), a vice-admiral, is the assistant head of the IHQ, and is a Principal Staff Officer, along with the Chief of Personnel (COP) and the Chief of Materiel (COM), both of whom are also vice-admirals. The Director General Medical Services (Navy) is a Surgeon Vice-Admiral.

The Indian Navy operates three Commands. Each Command is headed by a Flag Officer Commanding-in-Chief of the rank of Vice Admiral. The Eastern and Western Commands each have a Fleet commanded by a rear admiral, and each also have a Commodore commanding submarines. The Southern Naval Command is home to the Flag Officer Sea
Training. Additionally, the Andaman and Nicobar Command headquartered at Port Blair is a unified tri-services command under the Commander in Chief Andaman and Nicobar (CINCAN) who reports to the Chairman Chiefs of Staff Committee (COSC) who is provided staff support by the Chief of Integrated Staff to the Chiefs of Staff Committee (CISC) in New Delhi. The Andaman and Nicobar Command, a unified Indian Navy, Indian Army Indian Air Force and Coast Guard Command was set up in the Andaman and Nicobar Islands in 2001.

Commands

The Indian Navy operates three Commands. Each Command is headed by a Flag Officer Commanding-in-Chief in the rank of Vice Admiral.

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<th>Commands</th>
<th>HQ Location</th>
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<tr>
<td>Western Naval Command</td>
<td>Mumbai</td>
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<tr>
<td>Eastern Naval Command</td>
<td>Visakhapatnam</td>
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<tr>
<td>Southern Naval Command</td>
<td>Kochi</td>
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</table>

Two of the three commands have a two-star commanded Fleet, the Eastern and Western Fleets, and each also has a Commodore Commanding Submarines. Southern Naval Command is home to Flag Officer Sea Training.

Additionally, the Andaman and Nicobar Command at Port Blair is a joint command reporting to the Chief of Integrated Service Command (CISC) in New Delhi. The Andaman and Nicobar Command, a joint Navy, Indian Army and Indian Air Force command was set up in the Andaman and Nicobar Islands in 2001. It was created to safeguard India's strategic interests in Southeast Asia and the Strait of Malacca.

Naval Air Arm

The naval air-arm is an important component of the Indian Navy. The air arm consists of MiG-29K jets that operate from the aircraft carrier INS Vikramaditya and helicopters operating from Vikramaditya and INS Viraat. The Kamov-31 operates from the aircraft carriers and provides the airborne early warning cover for the fleet. In the anti-submarine role the Sea King, Ka-28 and the domestic built HAL Dhruv are used. The MARCOS also use Sea King and HAL Dhruv helicopters while conducting operations. Maritime patrol and reconnaissance operations are carried out by the Boeing P-8 Poseidon and the Ilyushin 38. The UAV arm consists of the IAI Heron and Searcher-IIs that are operated from both surface ships and shore establishments for surveillance missions.

The Indian Navy also maintains a four-aircraft aerobatic display team, the Sagar Pawan. The Sagar Pawan team will be replacing their present Kiran HJT-16 aircraft with the newly developed HJT-36 aircraft

The southernmost naval air station, INS Bazz was formally opened on 31 July 2012 by the Indian Navy Chief at Cambell Bay in Andaman and Nicobar Islands. With the commissioning of this station, the country acquired increased capability to keep vigil on the vital maritime channel of the Straits of Malacca.

MARCOS

The Marine Commando Force (MCF), also known as MARCOS, is a special forces unit that was raised by the Indian Navy in 1987 for direct action, special reconnaissance, amphibious warfare and counter-terrorism. In 1988, the MARCOS successfully rescued several hostages, including Maldives' then-Minister of Tourism, aboard a ship hijacked by PLOTE mercenaries during Operation Cactus. The MARCOS are typically deployed to prevent infiltration through the Jhelum River and Wular Lake and are also involved in covert counter-terrorism operations in and around lakes and rivers in Jammu and Kashmir. During the 26/11 Mumbai attacks, the MARCOS were also involved in the rescue
mission of hostages captured by the terrorists in Taj Mahal Palace & Tower luxury hotel in Mumbai as part of a large terrorist attack in Mumbai metropolis in November 2008

Equipments -

Ships
The names of all in service ships (and Naval Bases) of the Indian Navy are prefixed with the letters INS, designating Indian Naval Ship or Indian Navy Station. The fleet of the Indian Navy is a mixture of domestic built and foreign vessels. The Indian Navy presently has one aircraft carrier in active service, INS Vikramaditya. INS Viraat was decommissioned on 6 March 2017. In 2004, India bought the Russian aircraft carrier, Admiral Gorshkov for the equivalent of US$974 million. It cost an additional US$1.326 billion to overhaul the vessel and refit it entirely with new electronic, weapon systems and sensors, bringing the total procurement cost to USD 2.3 billion.

INS Vikramaditya sailed to India after her commissioning on 15 November 2013. It joined active service by December 2013. The Indian Navy has an amphibious transport dock of the Austin class, re-christened as INS Jalashwa in Indian service. It also maintains a fleet of landing ship tanks. It is expected that four more amphibious transport docks will be constructed in the future.

The navy currently operates three Kolkata, three Delhi and five Rajput-class guided-missile destroyers. The ships of the Rajput class will be replaced in the near future by the next-generation Visakhapatnam-class destroyers (Project 15B) which will feature a number of improvements.

In addition to destroyers, the navy operates several classes of frigates such as three Shivalik (Project 17 class) and six Talwar-class frigates. Seven additional Shivalik-class frigates (Project 17A class frigates) are on order. The older Godavari-class frigates will systematically be replaced one by one as the new classes of frigates are brought into service over the next decade. The last remaining Nilgiri-class frigate was decommissioned on 27 June 2013. Smaller littoral zone combatants in service are in the form of corvettes, of which the Indian Navy operates the Kamorta, Kora, Khukri, Veer and Abhay-class corvettes.

Replenishment tankers such as the Jyoti-class tanker, INS Aditya and the new Deepak-class fleet tanker- help improve the navy's endurance at sea. The Deepak-class tankers will be the mainstay of the replenishment fleet until the first half of the 21st century.

Submarines
The Indian Navy operates two types of conventional attack submarines; the Sindhughosh (Russian Kilo-class submarine design) and the Shishumar (German Type 209/1500 design) classes. India also possesses a single Akula-class nuclear-powered attack submarine named INS Chakra. She is the result of a US$2 billion deal between India and Russia for the completion and lease of two Akula-class submarines to the Indian Navy. Three hundred Indian Navy personnel were trained in Russia for the operation of these submarines. Negotiations are on with Russia for the lease of the second Akula-class submarine. At the end of the lease, it has been agreed that India will have the option to purchase the submarines outright.

Arihant, was launched on 26 July 2009 in Visakhapatnam (India). she was secretly commissioned into active service in August 2016. The Navy plans to have six nuclear-powered ballistic missile submarines in service in the near future. She is both the first boat of the Arihant-class nuclear-powered ballistic missile submarines and the first nuclear-powered submarine to be built in India.

Weapon systems
India has a number of foreign made cruise missile systems, including the Klub SS-N-27. It also has its own Nirbhay cruise missile systems under development. Another successful programme has been the adaptation of the Yakhont anti-ship missile system into the BrahMos by the NPO and the Defence Research and Development Organisation (DRDO). The BrahMos has been tailored to meet Indian needs and features a large proportion of India-designed components and technology, including its fire control systems, transporter erector launchers, and its onboard navigational attack systems. The successful test of Brahmos from INS Rajput provides Indian Navy with precision land attack capability. India has also fitted its P-8I Neptune reconnaissance aircraft with all-weather, active-radar-homing, over-the-horizon AGM-84L Harpoon Block II missiles and Mk 54 All-Up-Round Lightweight Torpedoes. Indian warships' primary air-defence shield is provided by Barak 1 surface-to-air missile while an advanced version Barak 8 is in development in collaboration with Israel. India's next-generation Scorpène-class submarines will be armed with Exocet anti-ship missile system. Among indigenous missiles, ship-launched version of Prithvi-II is called Dhanush, which has a range of 350 kilometres (220 mi) and can carry nuclear warheads. The K-15 Sagarika (Oceanic) submarine-launched ballistic missile (SLBM), which has a range of at least 700 km (some sources claim 1000 km) forms part of India's nuclear triad and is extensively tested to be integrated with the Arihant class of nuclear submarines. A longer range submarine launched ballistic missile called K-4 is under testing, to be followed by K-5 SLBM.

Electronic warfare and systems management

Sangraha is a joint electronic warfare programme of the Defence Research and Development Organisation (DRDO) and the Indian Navy. The system comprises a family of electronic warfare suites, such as Ajanta and Ellora, for use on different naval platforms capable of intercepting, detecting, and classifying pulsed, carrier wave, pulse repetition frequency agile, frequency agile and chirp radars. The systems employ a modular approach facilitating deployment on various platforms like helicopters, vehicles, and small ships. Certain platforms, apart from ESM (electronic support measures), have ECM (electronic countermeasure) capabilities. Advanced technologies like multiple-beam phased array jammers are employed in the system for simultaneous handling of multiple threats. The Indian Navy also relies on information technology to face the challenges of the 21st century. The Indian Navy is implementing a new strategy to move from a platform centric force to a network-centric force by linking all shore-based installations and ships via high-speed data networks and satellites. This will help in increased operational awareness. The network is referred to as the Navy Enterprise Wide Network (NEWN). The Indian Navy has also provided training to all its personnel in Information Technology (IT) at the Naval Institute of Computer Applications (NICA) located in Mumbai. Information technology is also used to provide better training, like the usage of simulators and for better management of the force.

INDIAN AIRFORCE -

Active 8 October 1932 – present Size 127,000 personnel approx. 1,380 aircraft and 420+helicopters Part of Ministry of Defence Indian Armed Forces Headquarters New Delhi, India Motto Sanskrit: Nabhaḥ Spṛṣṭam Dīptam

"Touch the Sky with Glory Colors Navy blue, sky blue & white
Anniversaries Air Force Day: 8 October Engagements

The Indian Air Force is the air arm of the Indian armed forces. Its primary responsibility is to secure Indian airspace and to conduct aerial warfare during a conflict. It was officially established on 8 October 1932 as an auxiliary air force
of the British Raj and the prefix *Royal* was added in 1945 in recognition of its services during World War II. After India achieved independence from the United Kingdom in 1947, the Royal Indian Air Force served the Dominion of India, with the prefix being dropped when India became a republic in 1950.

Since independence, the IAF has been involved in four wars with neighboring Pakistan and one with the People's Republic of China. Other major operations undertaken by the IAF include Operation *Vijay* – the invasion of Goa, Operation *Meghdoot*, Operation *Cactus* and Operation *Poomalai*. Apart from conflicts, the IAF has been an active participant in United Nations peacekeeping missions.

The President of India serves as the Commander-in-Chief of the IAF. The Chief of Air Staff, an Air Chief Marshal (ACM), is a four-star commander and commands the Air Force. There is never more than one serving ACM at any given time in the IAF. One officer Arjan Singh, DFC has been conferred the rank of Marshal of the Air Force, a five-star rank and the officer serves as the ceremonial chief.

**Structure**

The President of India is the Supreme Commander of all Indian armed forces and by virtue of that fact is the notional Commander-in-chief of the Air Force. Chief of the Air Staff with the rank of Air Chief Marshal is the Commander of the Indian Air Force. He is assisted by six officers: a Vice Chief of the Air Staff, a Deputy Chief of the Air Staff, the Air Officer in Charge of Administration, the Air Officer in Charge of Personnel, the Air Officer in Charge of Maintenance, and the Inspector General of Flight Safety. In January 2002, the government conferred the rank of Marshal of the Air Force on Arjan Singh making him the first and only Five-star officer with the Indian Air Force and ceremonial chief of the air force.

**Commands and structure**

The Indian Air Force is divided into five operational and two functional commands. Each Command is headed by an Air Officer Commanding-in-Chief with the rank of Air Marshal. The purpose of an operational command is to conduct military operations using aircraft within its area of responsibility, whereas the responsibility of functional commands is to maintain combat readiness. Aside from the Training Command at Bangalore, the centre for primary flight training is located at the Air Force Academy in Hyderabad, Andhra Pradesh, followed by operational training at various other schools. Advanced officer training for command positions is also conducted at the Defence Services Staff College; specialised advanced flight training schools are located at Bidar, Karnataka, and Hakimpet, Andhra Pradesh (also the location for helicopter training). Technical schools are found at a number of other locations.

<table>
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<tr>
<th>Operational Commands</th>
<th>Functional Commands</th>
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<tbody>
<tr>
<td><strong>Central Air Command (CAC)</strong>, headquartered at Allahabad, Uttar Pradesh</td>
<td><strong>Training Command (TC)</strong>, headquartered at Bangalore, Karnataka</td>
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<tr>
<td><strong>Eastern Air Command (EAC)</strong>, headquartered at Shillong, Meghalaya</td>
<td><strong>Maintenance Command (MC)</strong>, headquartered at Nagpur, Maharashtra</td>
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<tr>
<td><strong>Southern Air Command (SAC)</strong>, headquartered at Thiruvananthapuram, Kerala</td>
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<td><strong>South Western Air Command (SWAC)</strong>, headquartered at Gandhinagar, Gujarat</td>
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<tr>
<td><strong>Western Air Command (WAC)</strong>, headquartered at Subroto Park, New Delhi</td>
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Wings
A wing is a formation intermediate between a command and a squadron. It generally consists of two or three IAF squadrons and helicopter units, along with forward base support units (FBSU). FBSUs do not have or host any squadrons or helicopter units but act as transit airbases for routine operations. In times of war, they can become fully fledged air bases playing host to various squadrons. In all, about 47 wings and 19 FBSUs make up the IAF. Wings are typically commanded by a group captain.

Squadrons and units
Squadrons are the field units and formations attached to static locations. Thus, a flying squadron or unit is a sub-unit of an air force station which carries out the primary task of the IAF. A fighter squadron consists of 18 aircraft; all fighter squadrons are headed by a commanding officer with the rank of wing commander. Some transport squadrons and helicopter units are headed by a commanding officer with the rank of group captain.

Flights
Flights are sub-divisions of squadrons, commanded by a squadron leader. Each flight consists of two sections.

Sections
The smallest unit is the section, led by a flight lieutenant. Each section consists of three aircraft. Within this formation structure, IAF has several service branches for day-to-day operations. They are

<table>
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<tr>
<th>Flying Branch</th>
<th>Technical Branch</th>
<th>Ground Branch</th>
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<tr>
<td>Flying</td>
<td>Engineering</td>
<td>Logistics</td>
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<td>Meteorological</td>
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Garud Commando Force
In September 2009, the IAFMM, established its own special operation unit called the Garud Commando Force, consisting of approximately 1,500 personnel. For starting this special force volunteers from exiting trades were called and sent for commando and specialised training at various institutes of army and other forces. The airmen who successfully completed all course were inducted in Garud force, while special recruitment and selections from various IAF training institute were made for selecting young air warriors for Garud SF. By doing this IAF got two set of personnel for its SF, i.e. experienced senior lot with experience of working in various IAF units and younger airmen who can be groomed and brought up to the standards of SF. The unit derives its name from Garuda, a divine mythical bird of Hindu Mythology, but more commonly the word for Garuda in Sanskrit. Garud is tasked with the protection of critical installations; During hostilities, Garuds undertake combat search and rescue, rescue of downed airmen and other forces from behind enemy lines, suppression of enemy air defence (SEAD), radar busting, combat control, missile and munitions guidance ("lasing" of targets) and other missions in support of air operations. It has been suggested that they undertake an offensive role including raids on enemy air bases etc. during times of war. Apart from protecting air bases from sabotage and attacks by commando raids, they are also tasked to seal off weapons systems, fighter hangars and other major systems during intrusions and conflicts. and disaster relief during calamities.

Integrated Space Cell
An Integrated Space Cell, which will be jointly operated by all the three services of the Indian armed forces, the civilian Department of Space and the Indian Space Research Organisation (ISRO) has been set up to utilise more effectively the country's space-based assets for military purposes. This command will leverage space technology including satellites. Unlike an aerospace command, where the air force controls most of its activities, the Integrated
Space Cell envisages co-operation and co-ordination between the three services as well as civilian agencies dealing with space.

India currently has 10 remote sensing satellites in orbit. Though most are not meant to be dedicated military satellites, some have a spatial resolution of 1 metre or below which can be also used for military applications. Noteworthy satellites include the Technology Experiment Satellite (TES) which has a panchromatic camera (PAN) with a resolution of 1 metre, the RISAT-2 which is capable of imaging in all-weather conditions and has a resolution of one metre, the CARTOSAT-2, CARTOSAT-2A and CARTOSAT-2B which carries a panchromatic camera which has a resolution of 80 centimetres (black and white only).

Display teams
The Surya Kiran Aerobatic Team (SKAT) (Surya Kiran is Sanskrit for Sun Rays) is an aerobatics demonstration team of the Indian Air Force. They were formed in 1996 and are successors to the Thunderbolts. The team has a total of 13 pilots (selected from the fighter stream of the IAF) and operate 9 HAL HJT-16 Kiran Mk.2 trainer aircraft painted in a "day-glo orange" and white colour scheme. The Surya Kiran team were conferred squadron status in 2006, and presently have the designation of 52 Squadron ("The Sharks"). The team is based at the Indian Air Force Station at Bidar. The IAF has begun the process of converting Surya Kirans to BAE Hawks.

Sarang (Sanskrit for Peacock) is the Helicopter Display Team of the Indian Air Force. The team was formed in October 2003 and their first public performance was at the Asian Aerospace Show, Singapore, 2004. The team flies four HAL Druvs painted in red and white with a peacock figure at each side of the fuselage. The team is based at the Indian Air Force base at Air Force Station Sulur, Coimbatore.

Personnel
Over the years reliable sources provided notably divergent estimates of the personnel strength of the Indian Air Force after analysing open-source intelligence. The public policy organisation GlobalSecurity.org had estimated that the IAF had an estimated strength of 110,000 active personnel in 1994. In 2006, Anthony Cordesman estimated that strength to be 170,000 in the International Institute for Strategic Studies (IISS) publication "The Asian Conventional Military Balance in 2006". In 2010, James Hackett revised that estimate to an approximate strength of 127,000 active personnel in the IISS publication "Military Balance 2010". Indian defence minister, Manohar Parrikar, officially released the sanctioned strength of the Indian Air Force in reply to a question in the Lok Sabha. In 2017, the Indian Air Force had an authorised strength of 12,244 officers and 138,596 enlisted personnel. There was a shortage of 273 officers with the held strength of 11,971 officers. Similarly, there was a shortage of 10,428 enlisted personnel with the held strength of 128,168.

Honorary officers
Sachin Tendulkar was the first sportsperson and the first civilian without an aviation background to be awarded the honorary rank of group captain by the Indian Air Force.

Non combatants enrolled and civilians
Non combatants enrolled (NCs(E)) were established in British India as personal assistants to the officer class, and are equivalent to the orderly or sahayak of the Indian Army. Almost all the commands have some percentage of civilian strength which are central government employees. These are regular ranks which are prevalent in ministries. They are usually not posted outside their stations and are employed in administrative and non-technical work.

Training and education
The Indian Armed Forces have set up numerous military academies across India for training its personnel, such as the National Defence Academy (NDA). Besides the tri-service institutions, the Indian Air Force has a Training Command and several training establishments. While technical and other support staff are trained at various Ground Training Schools, the pilots are trained at the Air Force Academy, Dundigul (located in Hyderabad). The Pilot Training
Establishment at Allahabad, the Air Force Administrative College at Coimbatore, the School of Aviation Medicine at Bangalore, the Air Force Technical College, Bangalore at Jalahalli, the Tactics and Air Combat and Defence Establishment at Gwalior, and the Paratrooper’s Training School at Agra are some of the other training establishments of the IAF.

Multi-role fighters and strike aircraft
Sukhoi Su-30MKI: The IAF’s primary air superiority fighter with the additional capability to conduct air-ground (strike) missions is Sukhoi Su-30MKI. The IAF have placed an order for a total of 314 Su-30MKIs of which 242 are in service as of January 2016. Mikoyan MiG-29: The Mikoyan MiG-29 known as Baaz (Hindi for Hawk) is a dedicated air superiority fighter and constitutes a second line of defence after the Sukhoi Su-30MKI. 69 MiG-29s are in service, all of which have been recently upgraded to the MiG-29UPG standard. Dassault Mirage 2000: The Dassault Mirage 2000, known as Vajra (Sanskrit for Diamond or thunderbolt) in Indian service, is the primary multirole fighter, the IAF currently operates 49 Mirage 2000Hs and 8 Mirage 2000 TH all of which are currently being upgraded to the Mirage 2000-5 MK2 standard and 2 Mirage 2000-5 MK2 are in service as of March 2015. HAL Tejas: The MiG-21s are planned to be replaced by the indigenously built HAL Tejas. The first Tejas IAF unit, No. 45 Squadron IAF Flying Daggers was formed on 1 July 2016 with two aircraft. Initially being stationed at Bangalore, the first squadron will be placed at its home base at Sulur, Tamil Nadu. SEPECAT Jaguar: The SEPECAT Jaguar known as Shamsher serves as the IAF’s primary ground attack force. The IAF currently operates 139 Jaguars. Mikoyan MiG-27: The Mikoyan MiG-27 known as Bahadur (Hindi for Valiant) serves as the IAF’s primary ground attack force. The IAF currently operates over 85 MiG-27s. Mikoyan-Gurevich MiG-21: The Mikoyan-Gurevich MiG-21 serves as an Interceptor aircraft in the IAF. The IAF have phased out most of its MiG-21s and plans to keep only 125 that have been upgraded to MiG-21 Bison standard. These aircraft will be phased out between 2014 and 2017.

Airborne early warning and control aircraft
The IAF is currently training the crew in operating the indigenously developed DRDO AEW&CS flying on the Embraer ERJ 145 aircraft. The IAF also operates the EL/W-2090 Phalcon AEW&C incorporated in a Beriev A-50 platform. A total of 3 such systems are currently in service, with possible orders for 2 more.

Aerial refuelling
The IAF currently operates 7 Ilyushin IL-78MKIs in the aerial refuelling (tanker) role.

Transport aircraft
For strategic airlift operations the IAF uses the Ilyushin Il-76, known as Gajraj (Hindi for King Elephant) in Indian service. The IAF operated 17 Il-76s in 2010, which are in the process of being replaced by C-17 Globemaster IIs. The IAF C-130Js are used by special forces for combined Army-Air Force operations. India purchased six C-130Js; however one crashed at Gwalior on 28 March 2014 while on a training mission, killing all 5 on board and destroying the aircraft. The Antonov An-32, known in Indian service as the Sutlej (named for the Sutlej River), serves as a medium transport aircraft in the IAF. The aircraft is also used in bombing roles and para-dropping operations. The IAF currently operates 105 An-32s, all of which are being upgraded. The Dornier Do 228 serves as light transport aircraft in the IAF. The IAF also operates Boeing 737s and Embraer ECI-135 Legacy aircraft as VIP transports and passenger airliners for troops. Other VIP transport aircraft are used for both the President of India and the Prime Minister of India under the call sign Air India One.

The Hawker Siddeley HS 748 once formed the backbone of the IAF’s transport fleet, but are now used mainly for training and communication duties. A replacement is under consideration.
**Trainer aircraft**
The HAL HPT-32 Deepak is IAF's basic flight training aircraft for cadets. The HPT-32 was grounded in July 2009 following a crash that killed two senior flight instructors, but was revived in May 2010 and is to be fitted with a parachute recovery system (PRS) to enhance survivability during an emergency in the air and to bring the trainer down safely. The HPT-32 is to be phased out soon. The HPT 32 has been replaced by Pilatus, a Swiss aircraft. The IAF uses the HAL HJT-16 Kiran mk.I for intermediate flight training of cadets, while the HJT-16 Kiran mk.II provides advanced flight and weapons training. The HAL HJT-16 Kiran Mk.2 is also operated by the Surya Kiran Aerobatic Team (SKAT) of the IAF. The Kiran is to be replaced by the HAL HJT-36 Sitara. The BAE Hawk Mk 132 serves as an advanced jet trainer in the IAF and is progressively replacing the Kiran Mk.II. The IAF has begun the process of converting the Surya Kiran display team to Hawks. A total of 106 BAE Hawk trainers have been ordered by the IAF of which 39 have entered service as of July 2010. IAF also ordered 72 Pipistrel Virus SW 80 microlight aircraft for basic training purpose.

**Helicopters**
The HAL Dhruv serves primarily as a light utility helicopter in the IAF. In addition to transport and utility roles, newer Dhruvs are also used as attack helicopters. 4 Dhruvs are also operated by the Indian Air Force Sarang Helicopter Display Team. The HAL Chetak is a light utility helicopter and is used primarily for training, rescue and light transport roles in the IAF. The HAL Chetak is being gradually replaced by HAL Dhruv. The HAL Cheetah is a light utility helicopter used for high altitude operations. It is used for both transport and search-and-rescue missions in the IAF.

The Mil Mi-8 and the Mil Mi-17, Mi-17 1V and Mi-17V 5 are operated by the IAF for medium lift strategic and utility roles. The Mi-8 is being progressively replaced by the Mi-17 series of helicopters. The IAF has ordered 22 Boeing AH-64E Apache attack Helicopters, 68 HAL Light Combat Helicopters (LCH), 35 HAL Rudra attack Helicopters, 15 CH-47F Chinook heavy lift helicopters and 150 Mi-17V-5s to replace and augment its existing fleet of Mi-8s and Mi-17s and Mi-24’s. The Mil Mi-26 serves as a heavy lift helicopter in the IAF. It can also be used to transport troops or as a flying ambulance. The IAF currently operates 3 Mi-26s.

The Mil Mi-35 serves primarily as an attack helicopter in the IAF. The Mil Mi-35 can also act as a low-capacity troop transport. The IAF currently operates 2 squadrons (No.104 Firebirds and No.125 Gladiators) of Mi-25/35s.

**Unmanned Aerial Vehicles**
The IAF currently uses the IAI Searcher II and IAI Heron for reconnaissance and surveillance purposes. The IAI Harpy serves as an Unmanned Combat Aerial Vehicle (UCAV) which is designed to attack radar systems. The IAF also operates the DRDO Lakshya which serves as realistic towed aerial sub-targets for live fire training.

**Land-based missile systems**

**Surface-To Air Missiles**
The SPYDER (Surface-to-air PYthon and DERby) is an Israeli short and medium range mobile air defence system developed by Rafael Advanced Defense Systems with assistance from Israel Aerospace Industries (IAI). The SPYDER is a low-level, quick-reaction surface-to-air missile system capable of engaging aircraft, helicopters, unmanned air vehicles, drones, and precision-guided munitions. It provides air defence for fixed assets and for point and area defence for mobile forces in combat areas. Six SPYDER-MRs along with 300 Python-5 surface to missiles (SAMs) and 300 Derby SAMs are in service with the Indian Air Force.

The S-125 Pechora and the 9K33 Osa as Surface-to-air missile systems in service are being replaced with the Akash medium range surface-to-air missile system. A total of 8 squadrons has been ordered so far out of which 2 squadrons have been delivered and stationed at Gwalior and Pune.

**Ballistic missiles**
The IAF currently operates the Prithvi-II short-range ballistic missile (SRBM). The Prithvi-II is an IAF-specific variant of the Prithvi ballistic missile.

**Future of the Indian Air Force**

The number of aircraft in the IAF has been decreasing from the late 1990s due to retirement of older aircraft and several crashes. To deal with the depletion of force levels, the IAF has started to modernise its fleet. This includes both the upgrade of existing aircraft, equipment and infrastructure as well as induction of new aircraft and equipment, both indigenous and imported. As new aircraft enter service and numbers recover, the IAF plans to have a fleet of 42 squadrons.

**Future acquisitions**

**Single-engined fighter**

On 3 January 2017, Minister of Defence Manohar Parrikar addressed a media conference and announced plans for a competition to select a Strategic Partner to deliver "... 200 new single engine fighters to be made in India, which will easily cost around (USD)$45 million apiece without weaponry" with an expectation that Lockheed Martin (USA) and Saab (Sweden) will pitch the F-16 Block 70 and Gripen, respectively. An MoD official said that a global tender will be put to market in the first quarter of 2018, with a private company nominated as the strategic partners production agency followed by a two or more year process to evaluate technical and financial bids and conduct trials, before the final government-to-government deal in 2021. This represents 11 squadrons of aircraft plus several 'attrition' aircraft.

**Current acquisitions**

The IAF has placed orders for 120 HAL Tejas fighters, 36 Dassault Rafale multi-role fighters, 112 Pilatus PC-7MkII basic trainers, 72 HAL HJT-36 Sitara trainers, 72 Pipistrel Virus SW 80 microlight aircraft, 10 C-17 Globemaster III strategic air-lifters, 65 HAL Light Combat Helicopters, 139 Mi-17V-5 helicopters. and the IAF has also ordered 18 Israeli SPYDER Surface to Air Missile (SAM) units. IAF has also ordered 6 Airbus A330 tanker aircraft, 22 AH-64E Apache Longbow heavy attack helicopters, 15 CH-47F medium lift helicopters and IAIHarop UCAVs. India is also planning to set up an assembly line of American Lockheed Martin F-16 Fighting Falcon Block 70 in Bengaluru. It is not yet confirmed whether IAF will induct these aircraft or not.

The IAF has issued a Request for Information (RFI) for 16 C-27J Spartan medium military transport aircraft. A new Request For Information has been issued to replace Hawker Siddeley HS 748 for $2.4 billion. The IAF also submitted a request for information to international suppliers for a stealth unmanned combat air vehicle (UCAV)

**DRDO and HAL projects**

Indian defence companies such as HAL and DRDO are developing several aircraft for the IAF such as the HAL Tejas, Advanced Medium Combat Aircraft (AMCA), DRDO AEW&CS (revived from the Airavat Project), NAL Saras, HAL HJT-36 Sitara, HAL HTT-40, HAL Light Combat Helicopter (LCH), HAL Light Utility Helicopter (LUH), DRDO Rustom and AURA (Autonomous Unmanned Research Aircraft) UCAV. DRDO has developed the Akash missile system for the IAF and is developing the Maitri SAM with MBDA. DRDO is also developing the Prithvi II ballistic missile.

HAL has undertaken the joint development of the Sukhoi/HAL FGFA (Fifth Generation Fighter Aircraft) (a derivative project of the Sukhoi PAK FA) and the UAC/HAL Il-214 Multirole Transport Aircraft (MTA) with Russia's United Aircraft Corporation (UAC).HAL is also close to develop its own fifth generation fighter aircraft HAL Amca which will be inducted by 2028. DRDO has entered in a joint venture with Israel Aerospace Industries (IAI) to develop the Barak 8 SAM. DRDO is developing the air-launched version of the BrahMos cruise missile in a joint venture with Russia's NPO Mashinostroeyenia. DRDO has now successfully developed the nuclear capable Nirbhay cruise missile.