QUEENS OF THE SKIES
Women in Aviation Making India Proud

2019 AERONAUTICS INDIA
The runway to a billion opportunities

MINISTRY OF DEFENCE
DEPARTMENT OF DEFENCE PRODUCTION

20 - 24 FEB, BENGALURU
We are celebrating outstanding achievements and exemplary performance of women in the Aviation and Aerospace sectors during Aero India 2019.

For the first time, such a platform has been created during Aero India show, where lady officers of Aerospace sector are able to come together and share their experiences and challenges of working in this sector. Such a platform would definitely motivate younger women of the country to take up the challenging and interesting career opportunities in the aerospace sector.

This compilation is an attempt to showcase the achievements of woman officers involved in the Aerospace sector. Lady officers from Defence Forces, Civil Aviation, DRDO, ISRO, NAL, HAL who have made outstanding contributions in this sector have been included here. We would also like to acknowledge the contributions of the countless women, who have remained in the background, but have directly or indirectly served this sector.

We wish all of them a very bright future and life ahead.

It is a matter of immense pleasure and pride that Day 4 of the Aero India 2019 i.e. 23rd February has been earmarked to showcase and celebrate the path-breaking achievements of women in the aviation and aerospace sector by organizing multifarious events.

This would encourage women's participation in Aerospace Sector and our young girls would take up the challenge and soar high in the sky.

‘Jai Hind’

Nirmala Sitharaman
Hon’ble Minister of Defence
Govt. of India
India’s aviation industry has flown many miles, set numerous milestones and overcome many challenges to become one of the world’s most lucrative aviation markets. The growth of this sector would not be possible without the contribution of women personnel.

India is a world leader having the highest percentage of women in the cockpit than anywhere in the world. In the last female of decades it is quite evident that the contribution of women personnel in aviation sector has grown exponentially.

I am glad to know that one day in Aero India 2019 has been dedicated to celebrate and highlight the achievements of women in the Aerospace sector.

I extend my best wishes to all delegates and participants on this occasion.

Suresh Prabhu
Minister of Commerce & Industry and Civil Aviation
Govt. of India

This year during Aero India a specific day has been dedicated to acknowledge the contribution of women in the Aerospace sector. We appreciate the courage shown by these officers in breaking the glass ceiling and opting for this challenging career. The country is proud of these ladies for their outstanding contribution in this sector.

Achievements made by them would definitely be a source of inspiration to other young women to take up this challenging career.

I wish all the participants a great success.

Dr. Ajay Kumar
Secretary (Defence Production)
Ministry of Defence, Govt. of India
AERO INDIA 2019

Gp. Capt. Shakti Sharma
She is an education officer and the first select woman officer as Group Captain in IAF (other than Medical Branch). She was the first woman officer out of Army, Navy and Air Force, to command a Sainik School (Kapurthala) and also the first among tri-services woman officers to undergo prestigious Higher Defence Management Course. The officer was commissioned into the Education Branch of IAF in the year 1994.

Wg. Cdr. Asha Jyothirmai
Wing Commander Asha Jyothirmai is the team leader of women skydiving team trained in USA. She holds more than 880 jumps to her credit. She is also the first and the only woman in India to skydive from a Micro-Light Aircraft. This is an Indian record. She was the member of record making 73, 74 and 75 members’ skydiving team in October 2005.

Wg. Cdr. Neelam Hooda
She was commissioned in June 2004 as pilot in transport stream. She has over 3000 hrs of flying to her credit. The officer is qualified on all roles of the aircraft and is a role model for young officers to emulate. She is qualified on air maintenance in the North as well as in the North East region of the country.

Sqn. Ldr. Khusboo Gupta
Sqn Ldr Khusboo Gupta is a commissioned officer in the Flying Branch of IAF. She is in the helicopter stream of Flying and presently posted at a frontline base of IAF. With a will of steel, she became the first helicopter woman pilot to fly in the high altitudes of Siachen glacier.

Sqn. Ldr. Sneha Shekhwat
The officer was commissioned in IAF in the flying stream. In her professional career, she has flown a total of 2400 hrs on various aircrafts including HPT-32, DO-228 and her current aircraft HS 748, on which she holds CAT/IR BG. She became the first lady officer in the Armed Forces to command a contingent on the historical Rajpath during Republic Day celebrations.

Sqn. Ldr. Divya Jyothi
She is a Staff Pilot on Dornier 228 aircraft holding approximately 1600 hrs of accident/incident-free service flying.

Sqn. Ldr. Anupam Chaudhary
She is a helicopter pilot in IAF. Apart from more than 1400 hrs of flying, she has represented the IAF in Republic Day Parade on four occasions and has won best contingent award three consecutive times in 2011, 2012 and 2013.

Sqn. Ldr. Simardeep Kaur
She is an Aeronautical Engineer (AE) and the only woman AE officer working on the state-of-the-art C-130J special operations aircraft of IAF. She has displayed high degree of proficiency in planning and execution of all types of second line servicing on C-130J aircraft and change of main landing gear of aircraft in squadron itself.

Flt. Lt. Mohana Singh
The officer is from the first batch of lady officers inducted into the fighter stream. She has flown various trainer aircrafts and has a total flying of approximately 500 hrs. Presently, she is flying the HAWK-132 aircraft.

Wg. Cdr. Punam Gill
She was commissioned as pilot in Transport fleet in December 2005. Having operated AN-32 class of aircraft for 10 years, she was assigned to operate as an Op crew in RPA fleet as part of one of the first batches of lady officers. She became the first lady officer in IAF to qualify as internal pilot in RPA.
**Wg. Cdr. Divya Yadav**
She was commissioned in IAF as Administrative Branch Officer. She is qualified Radar Controller with over 2000 CILDS to her credit and holds the highest professional category, CAT ‘Aye’.

**Sqn. Ldr. Parinita Shahi**
She was commissioned in IAF in June 2011. She is a fighter controller and holds the highest professional category, CAT ‘Aye’, which speaks high volumes of her professionalism.

**Sqn. Ldr. Rini Tripathi**
She was commissioned in Logistics Branch of IAF. She was instrumental in handling the challenges of Techno-logistics in the modern day.

**Sqn. Ldr. Kavita Barala**
The officer is the first Lady Navigator to be commissioned in IAF. She holds the distinction of being the first Lady Navigator to be cleared for operational role including bombing, paratroop and formation, both by day and night.

**Flt.Lt. Seta Nidhi Pramod**
She is an Aeronautical Engineer (Mechanical) and presently employed on Hawk MK-132 aircraft. She is a sound professional displaying it in maintaining high serviceability and turnaround of aircraft for aircrew training.

**Ms. Ashima Mendiratta**
Ms Ashima Mendiratta, an Alumnus of Army Public School, is a passionate Helicopter Pilot. She joined as a Commercial Helicopter Pilot in the Indian Civil Aviation Industry. In a short span of her career of just about five years, she has earned the distinction of being the youngest lady who has been cleared to operate independently as Commander of a Multi-Engine Helicopter, over the length and breadth of the country for Onshore Operations. She has also been a volunteer for flying in Naxalite-infected areas of the country, wherein she has contributed immensely by evacuating serious medical casualties in these remote areas. Captain Ashima Mendiratta is presently flying for Pawan Hans Limited, a Public Sector Undertaking.

**Capt. Aprajeeta Sharma (SS - 46674W)**
The officer is a keen adventurer and has participated in paragliding, white water rafting and cycling during her service. Capt Aprajeeta Sharma is an avid mountaineer, qualified from Army Mountaineering Institute, Siachen Base Camp. The officer has been part of Indian Army Women Officers mountaineering expedition to Mount Bhagirathi II (6532 Mtr) and the team had created the Limca book of world record of performing yoga at the highest point (Summit Camp 19022 ft).

**Capt. Namrata Patel (MS-18193N)**
Captain Namrata Patel is the only lady medical officer in 60 Parachute Field Hospital. She was the only lady medical officer in the 27-member medical team which took part in OP SAMUDRA MAITRI (Earthquake in Indonesia). She had played a major and significant role in the recent exercise of dropping an Airborne Advance Dressing Station and testing its functionality as required in actual op scenario.

**Capt. Kanika CB Singh (SS - 45724K)**
Capt Kanika is a qualified professional Paratrooper. She is an ardent Extreme Runner and has participated in various National and International Marathons and recently was felicitated in the IDBI Full Marathon while coming first in her category. The officer has been conferred with the Army Cdrs Commendation Card for excelling in Basic Skiing and Mountain Warfare Course at AMI, Siachen Base Camp.
Lt. Cdr. Ambica Hooda (06316-B)
Staff Observer at P-81 Squadron
Lt Cdr Ambica has the distinction of being the first woman officer in the Naval Air Arm. The officer, in the span of three years, has undertaken numerous surveillance and ELINT missions. Lt Cdr Ambica is the first SSC (O) to have been awarded Clearance to instruct onboard P-81 aircraft operated by Indian Navy’s premier Long Range Maritime Reconnaissance Squadron INAS 312. She was also part of the team that participated in the P-81’s maiden participation in the world’s largest maritime exercise Rim of the Pacific Exercise (RIMPAC) at Hawaii in 2018.

Lt. Cdr. Seema Rani Sharma (06317-F)
Staff Observer at P-81 Squadron
Lt Cdr Seema has the distinction of being one of the first women officers in the Naval Air Arm. The officer, in the span of three years, has undertaken numerous surveillance and ELINT missions. Lt Cdr Seema is one of the most experienced aircrew in the Indian Navy’s premier Long Range Maritime Reconnaissance Squadron INAS 312. She was also the Mission Controller who was instrumental in the successful search and rescue operation undertaken from Mauritius to rescue Cdr Abhilash Tomy who was stranded in the middle of the Indian Ocean, after his boat was damaged during the golden globe race.

Lt. Cdr. Prerana Deosthalee (06541-R)
The officer has participated in various missions including the Theater level Readiness and Operational Exercise (TROPEX), Defence of Gujarat Exercise (DGX) as well as several Search and Shadow missions. As the Squadron Operations Officer, she has been instrumental in collating Inverse Synthetic Aperture Radar (ISAR) images of various Indian and foreign warships. She was selected to undergo the prestigious QNI course and completed the course with flying colours thereby holding the standing of being the first woman Qualified Navigation Instructor (QNI).

Deputy Commandant Kiran Kumari
0916-E, Staff Observer
The officer is a professionally outstanding Observer with flying experience of 2900 hrs. She has participated in various major exercises/operations viz. SAGAR KAVACH, OPS TASHA, OPS Sentinel, TROPEX, joint exercises with Japan and Korean Coast Guard. The officer represented Indian Coast Guard during International Fleet Review in February 2016 as a lead navigator.

Deputy Commandant Nidhi Jaiswal
0911-S, Staff Observer
She was conferred with Flag Officer Commanding-in-Chief South Silver Medal for being the Best Woman Trainee in 11th Naval Orientation Course 2010 and Most Promising Controller Trophy during 89th ATML & AL Course at AFA, Dundigul in January 2013. Subsequently, the officer was nominated for 123rd Air Traffic Surveillance Course (ATSC) at AFA, Dundigul and won the Rolling Trophy. She has meticulously assisted aircrafts in emergencies and poor weather conditions by exploiting Radar to the best use.
**Late Capt. Durba Banerjee**
India’s first woman commercial pilot in Indian Airlines.

**Capt. Saudamini Deshmukh**
She is the first woman Jet Commander in India, from Indian Airlines. She was also the Captain on Fokker Friendship F-27 in September 1985 and was the Captain of All-Women-Crew flight on the F-27 on 29th November, 1985. This was the first All-Women-Crew flight in the world on any aircraft among airlines which are members of the IATA (International Air Transport Association).

**Mrs. Harpreet A De Singh**
She is presently Executive Director in Air India. She is also the first and only Lady Chief of Flight Safety approved by DGCA. She is the first Lady Ground Instructor of Pilots, first Lady Safety Investigator, first Human Factors & CRM Facilitator and first Head in Indian Aviation in various areas such as QMS, SMS, EMS & Emergency Response. She is also the first Lead Auditor and Evaluator for International Quality and Safety Standards for IOSA, ISAGO and LOSSA.

**Capt. Nivedita Bhasin**
She was the youngest pilot in civil aviation history in the year 1989 to command a jet aircraft. She presently flies the Dreamliner B-787 Aircraft of Air India and has also commanded various all-women flights. She is also Dy. GM - Operations in Air India.

**Capt. Indrani Singh**
The first ever woman in Asia to fly the Airbus-320. She was the world’s first woman Commander on the wide bodied Airbus-300 in India.

**Capt. Rashmi Miranda**
Capt. Rashmi Miranda from Air India is the first lady Commander for A-310, B-777 and B-787 Dreamliner in India. She has commanded the first All-Women-Crew International Flight from Mumbai to Singapore in 2004 and the first Non-Stop flight across the Atlantic Ocean in 2010.

**Capt. Sangita Bangar**
She was part of the first all-women flight on A-320 as a Co-pilot with Capt Saudamini Deshmukh. She is the first woman Check Pilot, Instructor and Examiner in Air India on the A-320 fleet.

**Capt. Sunita Narula**
Capt. Sunita Narula is a Joint General Manager in Air India Limited and also working as Line Training Captain on B-777. In 2000, she flew Boeing 747-400, which was the largest commercial airplane at that time. She was crew of the first all-women-crew operated around the world flight. She is the senior-most woman captain on B-777 Aircraft.
**CIVIL AVIATION**

**Capt. Trisha Mohan**
Capt Trisha Mohan is the first lady to command the Jumbo B747-400 in India.

**Capt. Kshamta Bajpai**
She was the second Commander Captain of the team to fly the world’s longest all-women operated ultra-long haul flight and also Commander of the first all-women operated flight around the world.

**Capt. Bhuvanshree Gautam**
She is the first Indian woman to acquire Aircraft Maintenance Engineering DGCA License in 1985. She currently holds CAT ‘I’ License on B737-200 aircraft and approval on some of the components of A-320 & CRJ-700 aircraft.

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**Smt. T. K. Anuradha**
Director, SATCOM Programme
Started as a designer for satellite validation instrumentation, she was instrumental for the realization of several digital and power electronics instruments and the automation of satellite checkout system. She has led the teams as Project Director and the Programme Director for the GEO stationary satellites. She holds the distinction of being the first woman Project Director at ISRO.

**Dr. V. R. Lalithambika**
Outstanding Scientist and Director, Directorate of Human Spaceflight Programme
She has been associated with the autopilot design of PSLV, GSLV and GSLV MK-III right from inception. She later assumed responsibility for guidance and control design, mission analysis and simulation activities for all ISRO launch vehicles. She was an active contributor to the Task Group which has formulated ISRO’s Vision 2020, much of which has currently been achieved. Her team has played a major role in the success of the launch vehicle missions, including the RLV technology demonstrator and the Crew module recovery experiment.
Ms. J. Manjula  
**DS & DG (ECS)**  
Ms. J. Manjula is a specialist in the area of Electronic Warfare (EW) systems for the Tri-Services, Self-Protection Jammers for Jaguar DARIN III, Upgraded MiG-29 Aircraft, LCA, ESM & Self Protection Suits for Indigenous AEW&C, Dual Color Missile Approach Warner for Sukhoi 30, etc. are some of the noteworthy achievements made at DRDO under her leadership.

Dr. Tessy Thomas  
**DS & DG (AERO)**  
She has been associated with Agni Programme right from its developmental flights and has designed the guidance scheme for long range missile systems which is used in all Agni missiles. During her tenure as a Project and Technology Leader, the country achieved an indigenous ICBM capability.

Suma Varughese  
**OS**  
During her career she has significantly contributed to various projects like the Akash Radar for IAF, LCA and Super Vision Radar for Navy. Her outstanding contribution in the last 14 years is towards the development of the first Indigenous Airborne Early Warning & Control System (AEW&C). The major contribution is towards the System Engineering design and development of the first Airborne Electronically Scanned Array (AESA) with the state-of-the-art technology.

Padmavathi  
**Scientist ‘H/OS**  
Her significant achievements include development of Open Architecture based Mission & Display software, deployment of advanced avionics architecture for production standard for all variants of Tejas. She has helped to achieve total capability of building Avionics & Weapons platform, integration of vehicle management system & FCS indigenously.

Ms. Prameela Vadrevu  
**Scientist ‘H’**  
She worked for several years in Technology development and is currently playing a lead role in BRAHMOS, a JV programme initiated by Late Dr. APJ Abdul Kalam. She has worked on several technologies and contributed for IGMDP projects. She has successfully completed design and development of Mission planning & execution systems based on C4I technology for BRAHMOS.

Ms. Shashikala Sinha  
**Scientist ‘G’, RCI**  
She has developed a national facility for testing and calibration of radomes. Between 2015 and 2017, she led the team in conducting four consecutive successful missions of Advance Area Defence Interceptor (AAD), thus enabling the AAD Weapon System to be induction-ready by the Armed Forces. As Project Director of Endo-atmospheric Interceptors, she incorporated pioneering indigenous technologies and extended the defended area and capability of the interceptor.

Asha Garg  
**Scientist ‘G’**  
Project Director for Flight Control System for LCA, Group Director for Software Engineering Divisions for Light Combat Aircraft & Unmanned Air Vehicles. Responsible for the Flight Control software for all manned and unmanned aircrafts. Responsible for independent verification and validation of different software across DRDO labs.

Smt. Gracy Philip  
**Scientist ‘G’**  
First woman Regional Director for RCMA in the history of CEMILAC. Established IV&V certification process for airborne embedded software for LCA flight control/ avionics/ weapon systems, Jaguar upgrades (DARIN II, DARIN III) and MIRAGE. Thus, LCA has flown 4200 sorties without any failures towards FOC. Authored “DDPMAS Volume II Software Development and Certification”.

Mini Cherian  
**Scientist ‘G’**  
Major contribution was in the real time embedded software development for Mission Computer and Display Processor of Su 30 MKI & MiG-27. Contributed for the SPS systems for Mi-17 Helicopter. The Software developed has been certified and delivered to the User. Integration of VOR/ILS, IFF integration on SU-30K have been carried out by her.

Neeta Kandpal  
**Scientist ‘G’**  
She is a specialist in IR system engineering, development of signal processing, testing and evaluation of system. Her specific contribution was in the design and development of Electro-Optic (EO) technologies for Infrared (IR) Thermal Imaging Camera as Target Acquisition and Navigation Surveillance System for Airborne Platforms.
J. P. Vardhani
Scientist ‘F’
Her primary contribution was in the design, development, certification, mission integration and flight testing of Primary Radar for AEW&C. She has also contributed in software design, development, qualification, aircraft integration/testing for Synthetic Aperture Radar (SAR) and Active Electronically Scanned Array Radar (AESAR).

U. V. V. Krishnaveni
Scientist ‘F’
Her contribution is in the realization and field induction of SCD sub-systems for various manned and unmanned Airborne ES/ELINT systems like AEW&C and ELINT system for RUSTOM-II UAV & Ground Control Station for Satellite based ELINT payload.

Nemichandramma
General Manager (HMA)
She has over three decades of comprehensive experience in integration of Avionics, Mission Systems and Weapon Systems for Army, Air Force, Navy and Coast Guard applications. She led the design and development team of different versions of Advance Light Helicopter including Rudra, the first weaponized helicopter being certified in India. Presently she is General Manager of HAL Management Academy. She led the transformation of HMA into an All India Council for Technical Education approved institute.

S. Thenmozhi
General Manager
She is the first lady General Manager of HAL. She has contributed in design, development and certification of first indigenous Advance Light Helicopter and Light Combat Helicopter. She mentored SLRDC to get certification as the only R&D Centre with International Standard CMMI (Capability Maturity Model Integration) Level 3 certification in August 2016.

S. Vasanthi
CD RWRDC
She has led the design and development team for integration and certification of Automatic Flight Control Systems, Avionics, Weapons and Mission Systems. She has indigenously designed and developed Control Saturation Warning System for ALH and it is successfully flying on all Sarang Helicopters.

S. Rama
Chief of Design Liaison Engineering Cell
She is steering the team to provide technical support for manufacturing, repair and overhaul of Advance Light Helicopter, Cheetah, Chetak and Cheetal helicopters for the Defence and Civil Customers. She has significantly contributed in the design and development of Advance Light Helicopter, Weaponized ALH, Light Combat Helicopter and Light Utility Helicopter. She is also leading the indigenisation effort for the above said platforms and their systems, in order to increase self-reliance.
Archana Bapat
DGM
She has worked as Technical Head in system design, development, integration, testing and certification of avionics system on various platforms i.e. Jaguar DARIN II, Mirage 2000 I/TI, LCH etc. She is a specialist of system designing, certification and programme management.

Snegalatha A
Chief Manager (Methods)
She has contributed in development of processes for structural hardware of Satellite Launch Vehicles, established the production line for manufacturing and supply of Pylons and Drop Tanks for Aircraft structures. Her study on activity-based costing for realistic estimation has proved to be of significant impact.

Vaisakhi Salil Nandi
Senior Manager (Lab)
She has made significant contributions in indigenous development of metallo-ceramic friction materials for military and transport aircrafts and helicopters. Her expertise in metallurgical investigation of in-service and process failures of aeronautical components has prevented repetition of premature failures resulting in enhancement of the life and reliability of the components.

Vimala G
Senior Manager
She led successful completion of Electrical Design, implementation of Flight Test Instrumentation Design, Avionics Integration on aircraft and Flight Data Analysis on three variants of Jaguar upgrade aircraft (DARIN III) namely Jaguar Maritime, Single Seat and Twin Seat.

Shashikala Kelkar A
Senior Manager
She is involved in the design and development of Weapon Algorithm, Computer SW Development for integration of Weapons and Weapon Aiming Guidance Systems on Mirage 2000 I/TI and Jaguar Aircraft. She has filed and published 6 Nos. of patents.

Saraswathi S
Sr. Manager (Design)
She is involved in design and development of starter engine, auxiliary power unit, medium thrust class engine, helicopter engine and other LRUs. She has significantly contributed in design and development of HTFE 25 (Hindustan Turbopfan Engine 25 kN), an indigenous engine built by HAL. She has obtained copyright on HTFE 25 kN Core Engine Simulator.

M. Rajeswari
Sr. Manager (Design)
She is involved in design and development of Control System for Inflight Engine starting of Small Turbojet/Turbofan engines. She has successfully contributed in the commissioning of engines for PTA (Lakshya), Hawk, LCA and Jaguar. She has also obtained copyrights for modelling of Control Law and Engine Simulation for Turbo Starter application.

Jyoti Dutt
Manager
She has significantly contributed in design, development and certification of Indigenous Real Time Operating System and Device driver development for embedded avionics systems for HAWK and Jaguar aircraft.

Gajare Suvanalata M
Manager
She has significantly contributed in integration of Fire Control Radar, New SMD, AESA (Active Electronically Scanned Array) Radar and SDR (Software Defined Radio) integration on Jaguar DARIN III upgrade programme.
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**P. Lathasree**  
Senior Principal Scientist  
Her significant contributions are Flight dynamic modelling and high fidelity visuals development for LCA and SARAS simulators, Stability and Control clearance for IAF’s Mirage 2000 FOC stores configurations, Full Envelope Flight Controller design for AMCA. She was a Guest Scientist at Institute of Flight Guidance, Germany for six months during 2002.

**M. Sujata**  
Senior Principal Scientist  
Dr. Sujata is working in the area of failure analysis and accident investigation and has investigated more than 900 service failure cases. She is one of the few experts in the country in this field. Prior to joining CSIR-NAL, Dr. Sujata served as Dy. Manager at HAL, Bengaluru wherein she contributed significantly in the indigenization of materials for applications in the Light Combat Aircraft and Kaveri engine programmes.