



Silver Jubilee International Seminar



AIR INDIA
DEFENCE 2018



Kothari Auditorium, DRDO Bhawan, New Delhi
26-27 July 2018

Integrating New Technologies and Optimizing Legacy Systems



- Air Threats and Challenges
- Countermeasures
- New Technologies and
Weapon Systems
- Upgrades to Legacy Systems
- Air Defence Battle Management
- Indigenisation



Army Air Defence Corps

Event Partner



Industry Assn Partner



The Russian Model SURVEILLANCE. DETECTION. ENGAGEMENT



Long-Range AD Assets

S-300 PMU2, Antey-2500 AD msis
Gamma-DE, 9S19ME Imbir, 9S15MV3, 96L6E, 64N6E AD radars
Gazetchik-E radar Protection equipment
Smerch-M1E, Rubezh-ME, Fundament-E, Baikal-1ME, Universal-1E command sys
Rif-M naval AD missile system

Medium-Range AD Assets

Buk-M1-2, Buk-M2E, Pechora-2A AD msis
9S18M1, Gamma-S1E, Casta-2E2
Gazetchik-E radar Protection equipment
Smerch-M1E, Rubezh-ME, Fundament-E, Baikal-1ME, Universal-1E command sys
Shtil-1 naval AD missile system

Short-Range AD Assets

Tor-M1, Tor-M2E, Osa-AKM AD msis
9S18M1, Casta-2E2
Gazetchik-E radar Protection eqpt
PPRU-M1 command system
Klinok naval AD missile system

Weapon Systems

Radars

Auto Command Sys

Naval Weapons

Indian Air Defence Equipment Is Undergoing Massive Modernisation

The lethality and the severity of the air threat today has increased manifold. This threat perspective has moved beyond its erstwhile scalar dimension of manned aircraft as the main 'threat vehicle' including attack helicopters with new players like UAVs, cruise missiles, ballistic missiles, precision guided munitions and more, have added new perspective to the aerial offensive capability. This, coupled with contemporary and enabling technologies like stealth, soft kill and electronic warfare have revamped the aerial punch into a potent and a viable weapon.

Aim

The International Seminar on "Air Defence India" is being organized on 26-27 July 2018 at the Kothari Auditorium, DRDO Bhawan, New Delhi with the aim to obtain inputs in the journey towards for modernization of the country's Air Defence and apprise the industry regarding the requirements and expectations.

Objectives

The objectives of the seminar are as follows:

- Familiarise with the latest concepts of Air Defence being adopted by other contemporary armies of the world.
- Explore existing technology to neutralize new aerial threats.
- Explore the concept of convergence of EW with Ground Based Air Defence Weapon Systems.



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- Build understanding on the aspect of latest trends in communication technology towards achieving net centricity for Air Defence Control & Reporting System (ADC&RS).
- Establish clarity on concepts required towards preparation of modernization road map for Air Defence.
- Project requirements to the industry for the next three Five-Year Plan periods.
- Improve industry integration facilitating understanding of the requirement of Air Defence. Build a common platform for Services-Industry cooperation and response to the needs of Air Defence.

The Indian Armed Forces will use this occasion to carry out a comprehensive technical and commercial scan of Air Defence related technologies available, both globally and domestically in the foreseeable future.

Critical Needs

With the evolving air threat and the growing impact of air power on the outcome of conflict, the need for an effective Air Defence capability for air, land and naval operations has become particularly relevant in the current scenario of rapid technological advancements in avionics, stealth technology and precision strike capabilities of multiple aerial threat vehicles. Combat power cannot be sustained without a responsive and contemporary Air Defence. While the severity and lethality of the air threat continues to grow in all its multifarious dimensions, there is a time critical need for modernization of the Corps and upgrade of its existing inventory.

With recent initiatives in procurement, Indian Air Defence Corps is moving from near obsolescence to a crucial force for protecting military bases, frontline airbases, tank regiments, warships and also strategic assets.

India is looking at systems that can be deployed in multiple configurations and can be used by the Army, Air Force and Navy - from man-portable that can easily be lifted by troops in rugged mountain areas and carried to newer locations to fully automated self propelled systems.

India has launched the procurement process for three types of SAMs - medium-range, quick-reaction and man-portable short-range missile systems - to replace the Air Defence Corps' old Russian-origin Kvadrat, Strela and other systems.

The modernization road map envisages a vibrant Air Defence force which will be equipped with a range of guns and missile systems capable of meeting the challenges posed by the emerging air threat over the next few decades. These weapon systems would be networked on an automated Control and Reporting (C&R) system integrated to the C&R systems of the Indian Air Force.

Thursday 26 July 2018

0830 – 0930 hrs Registration & Tea

INAUGURAL SESSION (0930 – 1100 hrs)

0930 – 0940 hrs Welcome Address. **Lt Gen Vinod Bhatia**, PVSM, AVSM, VSM, Director CENJOWS
 0940 – 0950 hrs Inaugural Address by **Smt Nirmala Sitharaman**, Raksha Mantri, Government of India*
 0950 – 1000 hrs Special Address by **Gen Bipin Rawat**, UYSM, AVSM, YSM, SM, VSM, Chief of the Army Staff*
 1000 – 1010 hrs Special Address by **Air Chief Marshal BS Dhanoa**, PVSM, AVSM, YSM, VM, ADC, Chief of Air Staff*
 1010 – 1020 hrs Special Address by **Admiral Sunil Lanba**, PVSM, AVSM, ADC. Chief of Naval Staff*
 1020 – 1030 hrs Keynote Address. **Lt Gen AP Singh**, PhD, Director General Army Air Defence. "Overview of Army Air Defence."
 1030 – 1100 hrs Refreshments & Exhibition

SESSION 1 - EMERGING DEFENCE CONCEPTS AND TECHNOLOGICAL TRENDS (1100 – 1300 hrs)

Chairman: **Maj Gen (Dr) GD Bakshi**, SM, VSM, Retd, Former GOC Romeo Force

1100 – 1110 hrs Introduction of panelists and Opening Remarks of Session Chairman
 1110 – 1130 hrs Sponsor's presentation.
 1130 – 1150 hrs Sponsor's presentation.
 1150 – 1210 hrs Sponsor's presentation.
 1210 – 1230 hrs Sponsor's presentation.
 1230 – 1300 hrs **DRDO Project Director**, Air Defence Weapons System project.
 1300 – 1330 hrs Q&A/Discussion
 1330 – 1430 hrs Lunch

SESSION 2 - UPGRADES AND OPTIMISATION OF LEGACY SYSTEMS (1430 – 1600 hrs)

Chairman: **Lt Gen VK Saxena**, PVSM, AVSM, VSM, Retd, former Director General Army Air Defence

1430 – 1440 hrs Introduction of panelists and Opening Remarks by Session Chairman
 1440 – 1500 hrs Sponsor's presentation.
 1500 – 1520 hrs Sponsor's presentation.
 1520 – 1540 hrs Optimising Existing Legacy Systems. **Brig Vikas Sharma**, Dy Director General 'B' AAD Directorate, Army HQ
 1540 – 1600 hrs Relevance of Gun-Missile Mix. Army Air Defence Directorate.
 1600 – 1620 hrs Challenges in the Upgrade Process. **Air Cmde NN Reddy**, Technical Manager (Air)
 1620 – 1645 hrs Q&A/ Discussion
 1645 – 1715 Hrs Refreshments & Exhibition

Friday 27 July 2018

0830 – 0930 hrs Registration and Tea

SESSION 3 - EMERGING THREATS AN INTEGRATED AIR DEFENCE BATTLE (0930 – 1030 hrs)

Chairman: **Air Marshal HS Arora**, AVSM, Director General (Air Operations), Air HQ.

0930 – 0940 hrs Introduction of panelists and Opening Remarks by Session Chairman
 0940 – 1000 hrs Emerging Air threat. **Air Vice Mshl AK Nabh**, AVSM, VM, Asst Chief of Air Staff Operations (Space), Air HQ
 1000 – 1020 hrs Air Threat in the Tactical Battle Area. **Deputy Director General 'A'** Army Air Defence Directorate.
 1020 – 1040 hrs Integrated AD Battle in a Network Centric Environment. **Air Cmde VKS Yadav**, VSM, Principal Director, (AD C&R).
 1040 – 1100 hrs Q&A/ Discussion
 1100 – 1130 hrs Refreshments & Exhibition

SESSION 4 - AIR DEFENCE CONCEPT IN THE TACTICAL BATTLE AREA (1100 – 1230 hrs)

Chairman: **Lt Gen Kuldeep Singh**, PVSM, AVSM, Retd, former Director General Army Air Defence

1100 – 1110 hrs Introduction of panelists and Opening Remarks of Session Chairman
 1110 – 1130 hrs Emerging Concepts of Air Defence Operations. (UK, Israel, France).
 1130 – 1150 hrs Air Defence in the Tactical Battle Area. **Maj Gen Subodh Kumar**, Addl Director General, Army Air Defence Directorate.
 1150 – 1210 hrs Air Defence Ops in the Indian Ocean. **Cmde Kunal Singh Rajkumar**, Principal Director Naval Operations, Naval HQ.
 1210 – 1220 hrs Q&A/Discussion

SESSION 5 - DEVLOPING ANTI-RPA, CRAM AND CIWS CAPABILITIES (1220 – 1400 hrs)

Chairman: **Lt Gen AK Sehgal**, AVSM, VSM, ADC, Retd, former Director General Army Air Defence Corps

1220 – 1230 hrs Introduction of panelists and Opening Remarks by Session Chairman
 1230 – 1250 hrs Anti-Remotely Piloted Vehicles (RPA) capabilities.
 1250 – 1310 hrs Counter Rocket, Artillery & Mortar (CRAM) Capabilities.
 1310 – 1330 hrs Close-in Weapons Systems (CIWS).
 1330 – 1340 hrs Q&A/ Discussion

VALEDICTORY SESSION (1340 – 1410 hrs)

1340 – 1400 hrs Valedictory Address. **Lt Gen Ashwani Kumar**, AVSM, VSM, Adjutant General, Sr Colonel Comdt Army Air Defence
 1400 – 1410 hrs Closing Remarks. **Lt Gen Vinod Bhatia**, PVSM, AVSM, VSM, Director CENJOWS
 1410 – 1530 hrs Lunch & Close

Why You Should Attend



The Indian Armed Forces will use this occasion to carry out a comprehensive technical and commercial scan of Air Defence related technologies available, both globally and domestically in the foreseeable future.

Air Defence India promises to bring excellent networking and business opportunities, as well as insight, to the air defence community.

Exhibition

Air Defence India will bring together the Indian and international vendors, delegates and armed forces officers to interact and identify requirements, projects & programmes and technologies and products on offer in the market. It will also promote the proactive participation of the industry in the development of air defence systems.

Air Defence India is an ideal opportunity to meet key military/government decision makers, end users of air defence weapons and the world's leading manufacturers.

Conference

The conference will have high-level participation from the Indian Army, Indian Navy, Indian Air Force, DRDO, Ministry of Defence, academia, defence public sector undertakings and other defence establishments. The best international speakers and experts will address the audience.

Opportunities

A wide range of branding, exhibition, partnership and sponsorship opportunities are on offer, allowing your organisation to get the most out of this key event in the air defence calendar.



Officers of the Indian Armed Forces, DRDO scientists and government officials attend the seminars free of cost

Key benefits of attending:

- The latest technology in order to successfully transform current legacy systems.
- Develop international relationships through extensive networking opportunities.
- Increase efficiencies in Air & Missile Defence operations through knowledge sharing of best practice.
- Learn about India's Defence Procurement Procedure and optimise future industry relationships.
- Maximize performance and capabilities of defence systems by exploring leading international air defence programmes.
- Examine current tactical missile defence systems and discover future equipment requirements.
- Discover how integrated missile defence systems have been successfully deployed and plan for future needs and combat the challenge of interoperability.
- Improve communication channels with the Indian Armed Forces and local industry.

Who will be attending:

- Air Defence Field Commanders
- Army Air Defence Directorate staff
- Air Force Air Defence Commanders
- Strategic Forces Command
- Integrated Defence Staff
- Directors of Joint Operations
- Indian Ordnance Factories
- Purchasing Directorates
- DRDO scientists
- Training Branches and Institutes
- Air Defence College
- Chief Engineers and Program Managers
- Government and ministry acquisition officials
- Domestic vendors looking for joint ventures
- International Vendors
- Associations / Think tanks

Sponsors' Packages

There are a limited number of Sponsors' Packages available at this leading summit. Benefits include speaking slots, exhibition stands, extra delegates passes, branding opportunities, email messages, attendee lists, etc.

Lead Sponsorship, Sponsorship and Branding Opportunities

A number of sponsorship opportunities are available to suit all profiles and budgets. These include:

- Event Sponsor
- Platinum Sponsor
- Gold Sponsor
- Silver Sponsor.
- Bronze Sponsor.

In addition, other upgrades and options are available as follows:

- Delegate Bags (embossed with Company Logo) for all delegates
- Delegate Folder (embossed with Company Logo) for all delegates
- Delegate Lanyards with Company Logo printed on both sides
- Registration Signage with Company Logos at all counters
- Lunch Sponsorship with Banner and 4 reserved tables with VIPs.
- Refreshments Sponsorship with Banner
- Standee banner (3x6ft) in Regn Foyer

Privileges available to Sponsors, depending upon the level of sponsorship, include:

- Logo on pre-conference marketing and promotional materials in the premium position.
- Banner advertisement on the conference website homepage.
- Logo/link on the conference website homepage.
- Name/logo listed in the conference programme.
- Recognition as Sponsor by the conference chairman during introduction and closing remarks.
- Opportunity for company representative to make welcoming remarks at conference opening (Presenting Sponsor).
- Opportunity for company representative to make closing comments at end of the conference (Presenting Sponsor).
- Acknowledgment and logo on signage at registration area and in the conference room for premium sponsors.
- Sponsorship acknowledgment and logo at the refreshment and lunch breaks.
- Additional full conference passes.
- 6mx3m or 3mx3m exhibition booth in premium location.
- Advertisement in the Event Guide.
- Acknowledgment and logo in the conference programme sponsors page.
- Lanyards with presenting sponsor name and logo.
- Item placed in conference chairs at the opening session.
- Placement of branded materials in attendee bags.
- Special acknowledgment in post event thank you email to conference attendees and exhibitors.
- Speaker, attendee and press contact list to be delivered post event.

please see a separate Sponsorship Opportunities Folder for details.

and Branding Opportunities

DRDO's Kothari Auditorium lends itself to excellent signage opportunities. There are various options available to suit your brand, budget and message, including signage displayed inside and outside the exhibition hall and around the display area, increasing the traffic to your stand and your presence at this important event.



Kothari Auditorium



Summary of Recommendations from the 2017 Seminar

Subsequent to the publishing of Joint Doctrine, to begin with, all out endeavours should be made to achieve "jointness" and "integration" in the fields, where there is a commonality of operational environment, inter-dependence to achieve a common aim and commonality of weapons and equipment. There cannot be a better example than the Air Defence.

The Air Force becomes the first and the last responder against enemy's air threat due to peculiarity of its weapon platforms. At the terminal end, ultimate aim is to destroy the enemy's aircraft and therefore, irrespective of the service to whichever they belong, the weapon systems cannot have different characteristics.

Thus, the Air Force and the Army must synergize their efforts to achieve the following:-

- Decide on a common weapon system with

mutually agreed upon GSQR for deployment at the terminal end.

- While long range AD missiles remain in the domain of Air Force, gun-missile mix should be accepted at the terminal end.

- Army should have a dominant role in employing SRSAM, QRSAM and VSHORAD for protecting its Strike and Pivot Corps assets, while the Air Force should provide the AD cover beyond the range of AAD weapons.

- Close integration of AD C&R System with IAF IACCS Network.

The life of updates being undertaken by the AAD for its weapons being only seven years, a cost-effective analysis be carried out to know:-

- The original cost of weapons, the residual life of their gun barrels, the ordnance and the remainder support structure and the cost of

upgrades versus the cost of State-of-the-Art weapons with their long-term benefits.

- In spite of all the upgrades in terms of replacement of hydraulics to enhance the laying speed of guns, the rate of fire remains same in case of 23 mm twin guns and only a marginal increase in case of 40mm L/70 guns i.e., from the earlier 240 rounds per minute to 300 rounds per minute or 4 rounds per second to 5 rounds per second. If translated into actual time permissible for engaging a modern high speed aircraft, which is taken as 3 seconds, the L/70 upgrades will be able to fire 15 rounds instead of 12.

- Will it not be economical and more rewarding to go for only hi-tech ammunition for the same calibre to increase the hit probability and cover the threat till we acquire replacements.



Lt Gen AB Shivane, DG Mechanised Forces



Lt Gen Ajai Kumar Sahgal, DG Army Air Defence Corps



Lt Gen PS Jaggi, Commandant, Army AD Centre & College, chaired Session 2



Maj Gen (Dr) GD Bakshi chaired a session on Modern Trends



Maj Gen AP Singh, Addl DG, AAD spoke on the future acquisition of AD platforms



Maj Gen Vikram Puri, former ACIDS (TRADOC), chaired Session 3



Sameer, Sr DGM, BEL Ghaziabad, spoke on BEL's range of AD equipment



Brig Manoj Bindal, Dy DG, spoke on the multi-spectral air threat



Brig UV Talur, Dy DG, AAD Directorate spoke on Upgrading Legacy Gun Systems



Cmde KS Rajkumar, Principal Director Naval Ops, gave the Navy's view on AD



Mahesh Rajpurohit, Project Director MR-SAM, spoke MR-SAM development



Air Cmde VKS Yadav, Principal Director AD (C&R), spoke on Air Space Mgt



Col V Khanna, Director in AAD Dte, spoke on Countering Unconventional Threats



GN Rao, Scientist H, Project Director QR-SAM, DRDL spoke on Akash AD System

For Attending, Exhibiting or Sponsoring, please contact

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