

SP's Shownews



A SP GUIDE PUBLICATION



6th International Aerospace
& Defence Exhibition

Wednesday, February 7, 2007

Visit us at Aero India '07, February 7 to 11, at Booth no. D1.5 to D1.7 in Hall D

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"We have a comprehensive plan and the IAF is working towards achieving its desired capabilities through a 'perspective plan' for 10-15 years." Air Chief Marshal S P Tyagi reveals Indian Air Force's modernisation plans. **Page 28**

Army Chief General J J Singh says that the main focus is to absorb the emerging technologies **Page 30**

Aero India 2007 Takes off

The sixth five-day Aero India show opens today at the Indian Air Force (IAF) base at Yelahanka in Bangalore. Aero India has evolved into the largest aerospace exhibition in the region, surpassing air shows in Singapore, Malaysia and Dubai. The Indian armed forces have launched a major acquisition programme which includes a variety of aircraft and weapon systems. The shopping list is led by the requirement of 126 multirole combat aircraft for the IAF valued at about US \$ 6.5 billion (Rs 29,000 crore) apart from other types of hardware. The Indian Army needs 50 UAVs and 197 utility helicopters, while the Indian Navy seeks eight long range maritime patrol aircraft and 16 Anti-submarine helicopters. In addition, the civil aviation sector is looking at buying a lot of passenger aircraft that would need strengthening of airport infrastructure.

Such an attractive shopping list is bound to attract top aerospace companies of the US, Russia and Europe. According to initial estimates,

The Show is likely to attract much larger participations both from the global and domestic front including trade visitors



Antony to inaugurate the show



Mr A K Antony is known for his integrity and professional approach. A former Union Minister for Civil Supplies and Chief Minister of Kerala, he took over as Defence Minister on October 24, 2006. Mr Antony is to inaugurate the event today.





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**SP GUIDE
PUBLICATIONS**

Boeing to spotlight commercial and defence activities

The Boeing Company will spotlight its broad range of capabilities in the commercial and defence markets at Aero India 2007. "Boeing enters the show with a focused view of the tremendous opportunities in India as the market continues to develop," said Tom Downey, Boeing senior vice president, Communications. "Our comprehensive presence at the show will underscore our strong commitment to our customers, partners and suppliers."

Boeing Integrated Defense Systems will feature the combat-proven F/A-18F Super Hornet strike fighter, which will be on display and conduct daily aerial demonstrations with a full weapons load during the show. Also on display will be the CH-47 Chinook helicopter, whose unparalleled lift capabilities have been proven in numerous military and humanitarian roles around the world. Visitors will also see Boeing's C-17 Globemaster III strategic airlifter at the show.

The Boeing Commercial Airplanes' exhibit will feature large-scale models of

its family of airplanes in both customer



Chinook in flight

and Boeing liveries, as well as interactive displays. Commercial Airplanes Services and Boeing Capital Corporation will also participate in the exhibit. •

Aero India 07 Takes-off *contd from page 1...*



Surya Kirans prepare for Aero India 07

international participation is expected to go up by 45% and domestic participation by 40% in Aero India 2007 compared to the previous show in 2005. A total of 500 companies consisting of both international and domestic companies are expected to participate.

Aero India is expected to be a scintillating event, providing ample opportunity for showcasing aerospace products including flying displays. It goes without saying that it would be an ideal

platform for doing business. On the sidelines will be held an international seminar and a two day international conference on aviation.

Heads/representatives of air forces belonging to 30 countries, who are coming to participate in Indian Air Force's platinum jubilee celebrations, are also expected to witness the show that is scheduled to be inaugurated by the Defence Minister of India, Mr A K Antony. •

Hot



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Working as a team ensures success

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Unique Partnership

Boeing plans to increase its footprint in India, says Shrikhande, Country Leader

Company's presence

Boeing has been associated with Indian aviation for more than 60 years and hopes to not only maintain but expand this unique partnership well into the future. India entered the jet age on the wings of Boeing jetliners and now, there is a new dimension opening up for Boeing in the defence sector as the momentum of the Indo-US bilateral relationship continues its upward trajectory.

Boeing Integrated Defense Systems (IDS) has a new expanded leadership team and is looking to increase its footprint in India through a variety of new initiatives. We are building on the wholly-owned Indian Subsidiary we established in 2004. And now with a dedicated Integrated Defense Systems India team we have been listening and trying hard to understand the requirements of the Indian Defence Services. We believe – given our broad portfolio of products and services – coupled with this understanding of Indian requirements we will be able to respond with relevant platforms and solutions to meet those needs.

Boeing IDS has a rich portfolio of products and services to offer India, such as the combat-proven F/A 18 E/F Super Hornet multi-role combat fighter, the P-8A Multi-Mission Maritime Aircraft, the heavy lift CH-47F and MH-47G heavy-lift Chinook helicopters, C-17

III Globemaster and the T-45 Naval Training System, which includes the T-45 Goshawk trainer aircraft. Indian pilots are today training on Boeing's T-45 Goshawk trainers under a cooperative program with the US Navy. IDS is also a leading provider of aerospace support systems and network-centric operations that have high relevance to India's requirements.

Future Plans

Market Share being aimed for the US Navy and Boeing intend to offer the Super Hornet to the Indian Air Force for its upcoming Medium Multi-role Combat Aircraft competition. In April, Boeing submitted a proposal to develop and deliver eight long-range maritime reconnaissance and anti-submarine warfare aircraft to the Indian Navy. The Boeing P-8I Multi-mission maritime aircraft, a variant of the US Navy's P-8A, is currently under consideration by the MoD for India's maritime requirements and last December was notified it was down-selected for flight trials that will take place shortly.

IDS is also anticipating Indian interest in Boeing's CH-47 Chinook and T-45 Training Systems.

Views on Offsets

Boeing views the offset requirements more as an opportunity for our company to identify skilled and talented companies with whom

Anil Shrikhande of Boeing IDS



we can form a long-term industrial partnership that will benefit Boeing through access to India's skilled and educated workforce and its technology, and in return, introduce into Indian industry proven Boeing technology and processes that will leave a long lasting and sustainable benefit to Indian industry and a long term partnership.

As our defense business continues to expand worldwide, IDS continues to look for outstanding suppliers around the world, including India, to help increase the quality of our products. Last November, we held the Boeing-GE Supplier Conference in Bangalore and this was a great opportunity to introduce Boeing and our current key global industrial partners to Indian suppliers to develop collaborative, working together relationships. As we seek opportunities to contrib-

ute to India's defence modernisation requirements, we anticipate establishing additional long-term partnerships with the best of Indian industry.

Joint Ventures

We are looking to establish multiple business relationships with both public and private defence companies. This is in concert with the Indian Government's stated policy objective of increasing the role of the Indian Private sector in defense production. We have not established targets for numbers of Indian companies with which we expect to team. Indian industry has an outstanding reputation of providing affordable, quality products, and

Boeing's focus is on developing Indian sources of supply that can provide us competitive advantages quality, time-to-market and cost leadership. •

Hotter



यह जानना कि जीतने के लिए क्या कुछ करना पड़ता है।

Knowing what it takes for you to win

Honeywell understands that success in business, like success in sport, is seldom due to individual actions; it is as a team that we can win.

With our breadth of technology, experience and global support, Honeywell brings unique strengths to any team and ensures success.

Working as a team ensures success

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Raytheon to showcase state-of-the-art technologies

During the Aero India show, Raytheon will display a number of products and services. Raytheon representatives will also provide information about the company's desire to build a long-term relationship with India through Raytheon's commitment to Mission Support, Mission Assurance and customer focus.

Visitors to the Raytheon booth during Aero India will find a number of products on display including:

AMRAAM - The medium range air-to-air missile provides operational flexibility and multi-shot capability. It can be launched day or night, in all weather. Its autonomous guidance capability provides the pilot with critical range-preserving launch and leave aptitude.

AIM-9M - The short-range air-to-air missile is cost effective and provides infrared tracking that is adaptable to multiple applications. Its reliable, combat-proven effectiveness and all-aspect capabilities have been demonstrated in action around the world.

Paveway™ - It is a low-cost, precision guide bomb with more than 50,000 used in combat.

JSOW - The Joint Standoff Weapon is a long-range glide bomb that offers pinpoint accuracy.

Maverick - It is the only combat-proven missile in production today that is effective against armor and/or moving targets.

HARM - The High-Speed, Anti-Radiation missile is unmatched in combat effectiveness against enemy air defences.

AESA capabilities - Raytheon is the world leader in providing multi-mode AESA (active electronically scanned array) technology enabling platforms to simultaneously gather, process and share information, air-to-air and air-to-ground, with a speed and reliability greater than any other radar system. Raytheon's AESA systems are fully scalable and suitable for any fighter platform that requires the break-through



AMRAAM launched from an F-18 fighter

advantages Raytheon's ground-breaking systems provide.

Advanced Targeting Pod ATFLIR - The AN/ASQ-228 ATFLIR, the US Navy's targeting pod of record for the F/A-18, provides superior long-range, air-to-air tracking and target recognition, pinpoint targeting, high lethality and joint weapons support, and enhanced aircraft survivability. In both air-to-ground and air-to-air missions, ATFLIR has successfully detected, recognized and tracked targets at altitudes and at ranges substantially greater than other targeting systems.

Patriot - Raytheon is the prime contractor for the Patriot system and the system integrator for the configuration 3 system that includes the affordable GEM missile. As the system integrator, Raytheon ensures that all Patriot system components provide the warfighter a reliable and lethal capability to defeat the threats in current and future combat environments.

SL-AMRAAM - The Surface Launched AMRAAM system of systems provides the warfighter a tailorable, state-of-the-art air defense system that can defeat current and emerging cruise missile and wide range of air breathing threats. SL-AMRAAM combines combat-proven air superiority credentials with advanced fire control and battle management, unparalleled surveillance radar and launcher-missile performance.

AMHS (Air Traffic Management and Homeland Security) - Raytheon's next-generation air traffic management systems are advanced, cost-effective solutions that address the issues and challenges facing the air traffic management community in the 21st Century – traffic growth outpacing revenue growth, and the drive to increase safety, capacity and productivity in a cost-conscious environment. Using net-centric operations, Raytheon is helping customers to bridge old and new technologies to address today's issues and tomorrow's challenges. •

P&W, Kingfisher sign engine contract

Pratt & Whitney, a United Technologies Corp. company, and Kingfisher Airlines of India, have signed a US \$ 300 million contract for engines to power Kingfisher's new fleet of Airbus A330 aircraft.

"After a very detailed analysis of all the engine offered for the A330, we decided that Pratt & Whitney gave us the best total solution and met all our technical requirements," said Dr Vijay Mallya, chairman and chief executive officer, Kingfisher Airlines Limited. "Kingfisher has selected Pratt & Whitney to power our fleet of A320/A319s, ATR72s and A330s because of their ability to support our airline's vision to consistently deliver a safe, value-based and enjoyable travel experience to all our guests."

Hottest



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Vital Market

Lockheed Martin sees big partnerships in India, as Caplinger disclosed to SP's Show News

On partnership with India

We hope to win some contracts in India and become a long-term partner and supplier to the Indian government. We anticipate these types of partnerships will continue to grow in number and scope over time.

On Market share

We see India as a vital market with a lot of requirements that could be addressed with Lockheed Martin's products and services in future years. Our goal is to become a long-term partner to the government and industry of India. We don't have any specific goals about capturing a certain percentage of market share at this time.

Areas of interest

We are awaiting the RFP for the MRCA Programme and plan to offer a tailored version of the F-16 aircraft. India recently requested information from the US government about the C-130J aircraft and we are hopeful for a Super Hercules programme for India. During the past year, Lockheed Martin has responded to Indian Navy tenders for the Long Range Maritime Reconnaissance Anti-submarine Warfare (LRMRASW) and Multi-Role Helicopter programmes. We submitted a proposal for the P-3C Orion in response to the Indian Navy's LRM-RASW tender, and we are proposing the MH-60R as the Multi-Role Helicopter solution, jointly with Sikorsky

Royce Caplinger, Managing Director for India, Lockheed Martin.



and the US Navy. Other potential programmes include Lockheed Martin's Littoral Combat Solution, which is scalable for the needs of the Indian Navy; the MK 41 Vertical Launching System; and air and missile defense systems and technologies, such as the proven PAC-3.

Offset programme clause

Lockheed Martin has a great deal of experience in accomplishing offset programmes and we're prepared to meet the requirements set forth by India in connection with any future sales to the nation. We view the Offset programme clause as an opportunity to bring additional value to our products through part-

nerships with high-quality Indian companies.

Joint ventures

I mentioned various types of industrial agreements, which might include joint ventures, in my answer to your other question about Lockheed Martin's future plans. We're in discussion with Indian companies regarding several different types of agreements in the public and private sector. Lockheed Martin has more than 300 active partnerships of various types with companies throughout the world, and we plan to follow the same business strategy in India, tailored of course to your nation's individual requirements." •

India promises transparency in DPP

The Defence Minister Mr A K Antony has said that the Defence Procurement Procedure (DPP) and the Defence Procurement Manual (DPM) 2006 would be further reviewed, based on experience gained from implementation, to make them even more responsive and effective instruments for meeting the requirements of the Indian Armed Forces. He promised that the Indian Government would do this by observing highest standards of transparency and probity.

Addressing the Meeting of the Consultative Committee attached to his Ministry, Mr Antony said, "Our effort will be to make the procedures foolproof and to avoid any scope for corruption."

AIA spots booming Indian market

The Aerospace Industries Association (AIA) sees India as a big aviation opportunity. About 30 representatives of Aerospace Industries Association (AIA) member companies were in Delhi on December 4, 2006 for a six day, first ever trade mission to India. Said AIA Executive Vice Executive Vice President of Defense and International Affairs, Mark Esper, who was heading the delegation: "We are excited about this opportunity to strengthen our partnerships with both the Indian Government and the country's aerospace industry." The trade mission visited Delhi and Bangalore. The mission had been planned as more and more US aerospace companies are looking to India as a possible market for both defence and civil aviation products.

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Raytheon

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BAE Systems' HERTI to make international debut

One of the world's first fully autonomous UAV will make its international public debut at Aero India 2007. Developed by BAE Systems, the unmanned air system, known as HERTI, is one of a new generation of UAVs suitable for both military and civil operations. With its ability to take off, complete a full mission and land – all at the click of a computer mouse – HERTI has been designed to meet a wide variety of operational needs without the need for a pilot to control

the aircraft from the ground.

The HERTI air vehicle and its unique ground control station is being showcased

at Aero India 2007. When coupled with BAE Systems' Imagery Collection & Exploitation (ICE) system, the air-

craft offers real potential in the fields of maritime, coastline and border surveillance as well as showing broader potential for areas such as pipeline, plant and infrastructure surveillance, and insurgent detection.

Andy Wilson, Sales and Marketing Director of Autonomous Systems & Future Capability at BAE Systems says: "At Aero India, we will be exhibiting the production configuration vehicle, and the system in which it operates, giving new levels of autonomy and reliability for UAVs."



Thales' defence, aerospace and security exhibits

Thales will be showcasing its expertise in the aerospace sector at the Aero India air show. As an international electronics and systems group serving defence, aerospace and security markets, Thales is a worldwide leader in prime contracting, systems integration and equipment manufacturing. The Group is a world leader in both civil and military applications of aerospace technologies and services including avionics, satellite, radio and data communications, radars, mission planning, air command and control, air traffic management, training and simulation, in-flight entertainment systems (IFE) and electro optic sensors.

The Thales stand features sections on civil aviation, military aviation, aviation services and security as well as a section that tells the story of Thales' involvement in major cooperation projects such as Galileo and Sesar.

Within the military aviation section, along with illustrations of Thales' offer for the Mirage 2000-5 upgrade in India, exhibits on stand include an interactive fully functional TopOwl headset for the MiG 29, which provides all relevant information right in front of the pilot's eyes (symbols, warnings, images) without having to look down at the instrument panel – a key



Left: TopOwl headset for the MiG-29

element to ensuring flight safety during tactical missions.

Civil aviation displays feature Thales' different integrated Air Traffic Management (ATM) solutions. With air traffic in India increasing to reach an all time high, Thales puts forward the new technology, Automatic Dependent Surveillance-Broadcast (ADS-B) as a solution to Indian air traffic control infrastructures. IFE systems, with two major contracts won in 2006 with Air India and Indian Airlines will also be featured on the Thales stand. •

Thales in India

Thales has been operating in India since 1953, and has stepped up its presence in India over recent years, setting up a local company in New Delhi, Thales International India, in 2003 to provide IT and support services for local, civil and military programmes. In 2006, the Group opened Thales Software India in Chennai. This structure is aimed at developing software to support the entire range of Thales Group wide solutions and in the long term will become an R & D centre in its own right.

The Group is a long-term partner of the Indian Armed Forces. Its equipment and systems have been selected for various types of platforms in service with the Army, Air Force and Navy such as air defence radars, avionics for military and civil aircraft, optronics, sonars.

Thales aims to reinforce partnerships with Indian industries through transfers of technology and joint ventures; and to work with local industry to meet India's growing defence needs, through programmes such as the Mirage 2000 upgrade programme for the Indian Air Force, electronic warfare projects and tactical radio networks for the Indian Army.

Thales is equally present in the civil domain and is partner and supplier to many Indian companies within the fields of aerospace and security.

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International Conference on Aviation

February 8-9, 2007

Hall – E Annexe, Air Force Station, Yelahanka, Bangalore

**TENTATIVE PROGRAMME (source: www.ficci.com)*

DAY 1: Thursday, February 8, 2007

0900 – 1000 Hrs REGISTRATION

1000 – 1100 Hrs INAUGURAL SESSION

Session to be moderated by Dr. Amit Mitra, Secretary General, FICCI

- Welcome Address by Mr. Habil F Khorakiwala, President, FICCI *
- Special Address by Mr. Ashok Chawla, Secretary, Ministry of Civil Aviation, Government of India
- Special Address on “Defence Aviation” by Mr. K P Singh, Secretary (Defence Production), Ministry of Defence
- Keynote Address by Dr. Taieb Cherif, Secretary General, International Civil Aviation Organization *
- Release of the FICCI – CAPA Study on Indian Aviation: Overview and Outlook by Mr. Praful Patel, Hon’ble Minister of State, Ministry of Civil Aviation, Government of India
- Inaugural Address by Mr. Praful Patel, Hon’ble Minister of State for Civil Aviation, Government of India *
- Vote of Thanks by Mr. Rajeev Chandrasekhar, Chairman & CEO, Jupiter Capital & Vice President, FICCI *

1100 – 1115 Hrs Tea Break

1115 – 1245 Hrs

Session I:

INDIA'S CIVIL AVIATION MARKET

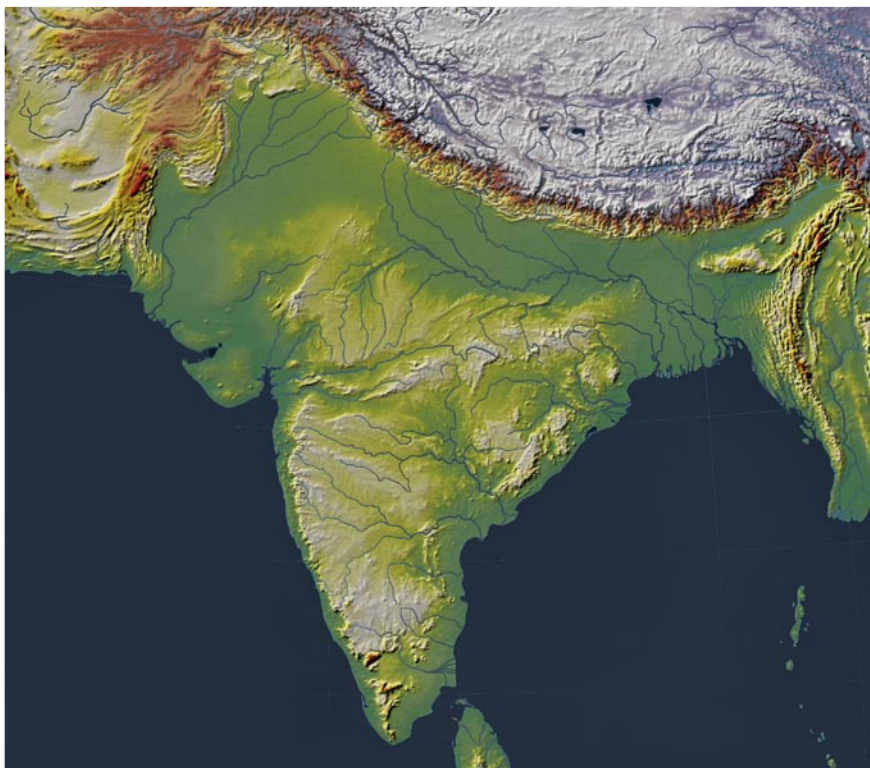
In Chair – Mr. V Thulasidas, Chairman & Managing Director, Air India *

Speakers:

- Market Forecast for the World and India by Dr. Dinesh A. Keskar, Sr V P, Sales, Commercial Airplanes, The Boeing Company *
- Theme Presentation by Mr. Kapil Kaul, CEO, Indian Subcontinent and Middle East, Centre for Asia Pacific Aviation *
- Theme 1: Passenger Forecast & Demand for Aircraft
- Theme 2: Market for Civil Aviation Infrastructure
- Independent Regulatory Framework: Benefits for Consumers, Airports & Investors by Mr. Peter Bysouth, Assistant Director, Airport and ATC Charges, International Air Transport Association – Asia Pacific *
- Q & A Session

1245 – 1330 Hrs Lunch Break

...contd on page 34



P-3



MH-60R



C-130J



F-16 with Sniper Targeting Pod



PAC-3

World-class systems for a world-class military.

A world-class military needs world-class equipment to defend freedom and democracy. As the world's premier defense company and the U.S. Government's leading information technology supplier, we are strongly focused on helping governments achieve their most important defense and security goals. We are leaders across a wide range of platforms, systems and IT – combat aircraft, air mobility, maritime surveillance, multi-mission helicopters, missile defense, C4ISR, network-enabled capabilities, unmanned systems, IT solutions and much more. And we are committed to working with India's military forces to meet India's defense and security requirements, now and into the future.



1.



* Aircraft likely to take part at Aero I

2.



9.



8.



7.





1. F-18, 2. C-130J, 3. F-16,
4. Indian IJT, 5. C-17,
6. Tejas (LCA), 7. MiG-35,
8. Chinook, 9. Gripen.

*as per FICCI.

1.



2.



7.



8.



6.





3.



4.



5.

1. Cessna Citation, 2. Indian ALH, 3. Raytheon's BuzJet, 4. Learjet, 5. BAE's Heti, 6. Dassault Falcon, 7. ATR 72-500, 8. Bell 407.

Meeting Ground

India's modernisation needs mesh closely with Raytheon's capabilities, Admiral (Retd) Doran told SP's Show News

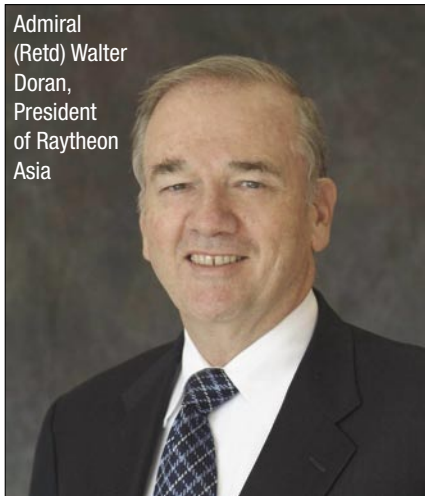
Areas/Sectors offering business opportunities in India

India has the potential to be one of Raytheon's largest overseas growth markets in the next five years. It is the world's second-fastest growing economy, with an annual defence acquisition budget of more than US\$8 billion. And India's long-term modernisation needs – both for its military and its civilian-aviation systems – mesh closely with Raytheon's broad array of technologies and capabilities.

Company's presence and activities in India

Raytheon's relationship with India spans more than half a century. The company's general-aviation aircraft have been sold here for more than 60 years. We are working with the Indian Space Research Organization and Airports Authority of India to upgrade their civilian-aviation systems, including the country's new GAGAN space-based navigation system. Raytheon's sensors will be onboard India's first lunar-orbiting satellite, Chandrayaan-1. The company also provides its Firefinder radar system to the Indian Army

Admiral (Retd) Walter Doran, President of Raytheon Asia



and its Paveway laser-guided bombs to the Indian Air Force.

Specific areas/sectors being targeted for India

Raytheon has a wide portfolio of products and capabilities, with more than 8,000 programs in defense electronics, precision engagement, space, and more. Given India's plans to upgrade its Air Force, Navy and air-defense systems,

Raytheon sees strong opportunity for our products and capabilities to support these emerging requirements. For example, our integrated sensor-and-weapon technologies would provide cutting-edge solutions in India's impending fighter-jet competition. Similarly, the company's expertise in networked communications and mission-systems integration could prove useful to the Indian Navy's modernization plans.

View on Offsets

Raytheon does business in more than 70 countries around the world. So in many respects, we're offset specialists, so to speak. In India, we're prepared to meet whatever requirements the Indian government sets and are currently evaluating a number of potential partnerships with Indian companies. Offsets by the US defence industry created more than US\$50 billion in value in more than 40 countries from 1993 to 2004, according to US Commerce Department statistics. Last year, Raytheon alone did 38 such arrangements around the world. So there's every reason to be optimistic about the possibilities in India. •

Major retrofit for early Eurofighter Typhoon begins

All 115 Eurofighter Typhoon aircraft of Blocks 1, 2 and 2B, are now being upgraded to Block 5 capability, FOC standard (Final Operational Capability) in order to maximise Eurofighter Typhoon capability at a fleet level. Currently 114 aircraft have been delivered.

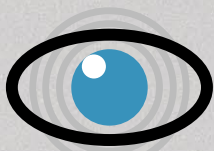
Upgrade management philosophy is to combine Eurofighter Typhoon capability upgrades with routine scheduled maintenance to enhance overall fleet availability.

The first non-Block 5 aircraft to be brought to FOC standard is BS021, the 21st single seater of UK production. Block 5 includes existing full air-to-air functionality plus air-to-ground capability to drop laser guided bombs. •





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Rafael to showcase array of products

Rafael will display their UAVs, air defence, and self-protection systems for helicopters. On display will be Skylite B, a man-portable, long endurance mini-UAV system designed to meet the intelligence, surveillance and reconnaissance needs of all branches of the army including infantry units. It is specially configured to fly below a low cloud base and in adverse winds. The system provides high resolution, real-time imagery to the field operator and to higher command levels. Another product to be showcased, is the Spyder. The Spyder Air Defence System (ADS) family is the most advanced, mobile, quick reaction, network centric air defense missiles system. The Spyder ADS family developed



by RAFAEL and IAI includes Spyder SR and Spyder MR.

Spyder SR is a low level quick reaction missile system, designed to engage and destroy a wide spectrum of threats, such as fighter aircraft, bombers, cruise missiles, UAVs and UCAVs and stand-off weapons. Spyder MR is a medium range air defense mis-

sile system (MRADMS), mostly based on the same elements as Spyder SR, designed to engage and destroy a wide spectrum of threats similar to Spyder-SR but at longer ranges. Another product, the X-Guard system is a state-of-the-art modern fibre optic towed decoy. The system lures the attacking missiles away from

the aimed platform by creating a more attractive false target signal which diverts the homing missile.

Rafael's Python5 is a fifth generation air-to-air missile and a successor to Python4. The missile incorporates a new dual waveband, high off-bore sight imaging seeker, advanced computer architecture, sophisticated IRCCM and flight control algorithms. The company's Helistar is a missile protection system for light to medium size helicopters. The system protects the helicopter against IR missiles during combat mission, neutralising all advanced threats that are used by the enemy. Rafael is collaborating with EADS to provide Helistar which is a successor to the Aero-Gem. •

MiG-35 debut at Aero India 2007

What is a MiG-35? This has been the prime question journalists and experts covering MMRCA (Medium-range Multirole Combat Aircraft) have been asking. The Russians have answered the question. The MiG-35 was presented to the Russia's top brass on January 9th 2007 and the first public demonstration of the aircraft took place at the Yelohanka Air Base on February 6th, just the day before the Aero India.

The MiG-35 turned out to be far different airplane from the virtual aircraft described by the specialized media. Following the incredible impression made by the MiG-29 OVT flight demonstration at Farnborough everybody was expecting that the MiG-35 would be equipped with the thrust vectoring engines. But the new fighter displays characteristics of airframe and engine that differ only slightly from the MiG-29 M2 and shipborne MiG-29K. The real changes have taken place within the avionics. The main difference is the active phased-array antenna (AESA)

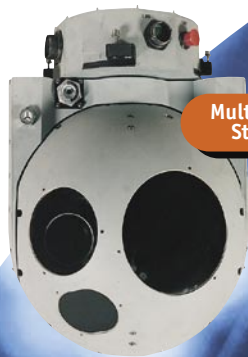


radar which is very similar to the one installed aboard the most advanced American fighters. According to the Russian Phazotron Corporation the new radar has

the Zhuk-AE designation and has a lot in common with the MiG-29K radar. In general, the Russians think that the high level of unification of the MiG-35, the MiG-29K

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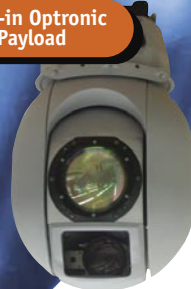


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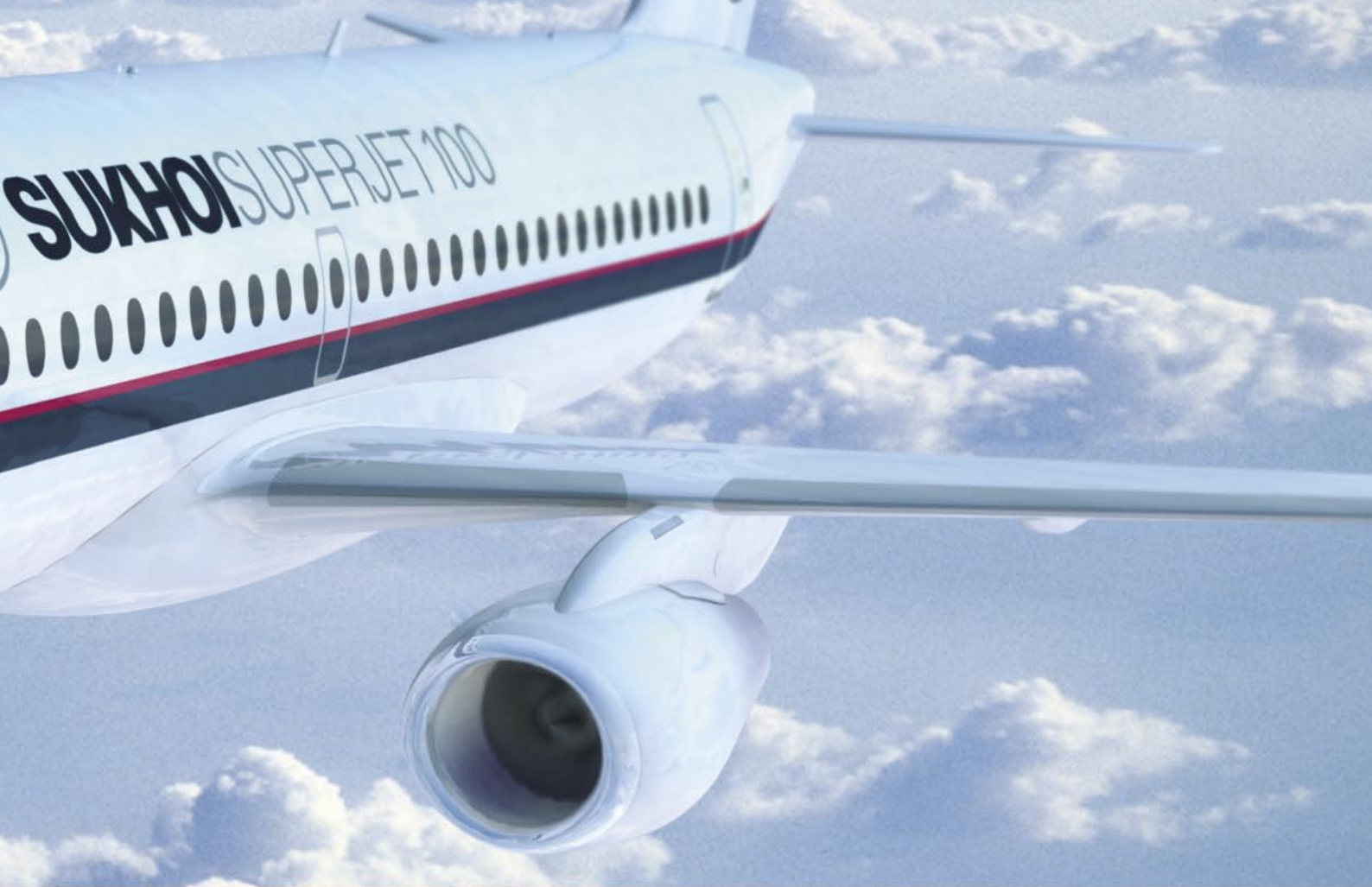


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Progressive Policy Move

Defence Procurement Procedure 2006

India's defence procurement and manufacturing programme reflects the country's endeavour to achieve sustained economic development in a bid to emerge as a major global economic power. It is against this backdrop that its policy of progressive review and revision of the procurement procedure promulgated in August 2006 should be viewed. The new procedure has been made applicable with effect from September 1, 2006. Its salient features are as follows:

■ 'Buy' category has been further subdivided into 'Buy (Indian)' and 'Buy (Global)'. 'Buy (Indian)' must have minimum 30% indigenous content if the system is being integrated by an Indian vendor. This provision is expected to promote indigenous production.

■ The procedure has been enlarged to include procurements through indigenous development. All strategic, complex and security sensitive systems would be earmarked for development by Defence Research and Development Organisation (DRDO) under their own procedure. Low technology mature systems would be categorised as 'Buy (Indian)' and must have a minimum indigenous content of 50%. Acquisitions involving high technology complex systems would be covered under the new 'Make' procedure. These projects would be

undertaken by public sector/private sector/consortia on a level playing field.

■ All cases involving upgradation of in-service weapon systems and equipment are also covered by the new procedure. Such cases would also be categorised as 'Buy (Indian)', 'Buy (Global)', 'Buy and Make' and 'Make' cases.

■ Production agency nominated to receive transfer of technology would be approved by Defence Acquisition Council (DAC). It could be any of the public or private sector firms, based on the inputs received from the Department of Defence Production. If a joint venture company has participated in the tender, then the company would qualify only if it has been able to absorb the technology as per the RFP requirements. Provision has also been made for the transfer of technology for maintenance infrastructure as well.

■ In order to generate more competition, vendor registration through internet has been facilitated. Advertisements on defence website and the print media are allowed to be placed keeping security concerns in mind. Generic requirements of the services will also be placed on the website.

■ During field trials, after each stage, a debriefing of all the vendors would be carried

Offset Obligations

Detailed guidelines for the fulfillment of offset obligations, issued earlier in July 2006, have been made a part of this procedure. The policy is applicable to all purchases where indicative cost is over Rs 300 crore (US \$66.66 million) for 'Buy', 'Buy and Make', with TOT and shipbuilding projects. DAC may prescribe offsets higher than 30% for specific cases. For joint ventures where an Indian firm is bidding, the foreign partner will have to discharge offset obligation. Offset obligation can be discharged by any of the following routes:

- Direct purchase of or executing export orders for, defence products and services provided by the Indian defence industry.
- Foreign Direct Investment (FDI) in Indian defence industry.
- FDI in Indian organisations engaged in research in defence research and development.

out in a common meeting (wherever possible) as regards the performance of their equipment. Compliance or otherwise vis-à-vis RFP parameters would be specifically communicated to all the vendors at the trial location itself. It is a very bold decision which will fulfill a long standing demand of vendors and promote transparency in evaluation process.

■ In a multi-vendor situation, contract would be concluded with L1 without any price negotiations. However, negotiations can be held in exceptional circumstances where valid logical reasons exist. RFP must mention this aspect. This provision has been included to cut down delays caused by long and protracted price negotiations.

■ Every bidder is required to give an undertaking that he has not supplied the similar item at a lower rate to any department of the Government of India.

■ For all procurements over Rs 100 crore (US \$22.22 million), an integrity pact would be signed between the Government and the vendors wherein both sides undertake not to accept and offer bribes respectively. •

Defence Offsets Facilitating Agency (DOFA)

DOFA will assist potential vendors in interfacing with the Indian defence industry to identify potential offset products/projects and provide requisite data and information for this purpose. Its charter of duties is as under:

- Facilitate implementation of offsets policy.
- Suggest improvement in the policy and procedures.
- Provide advisory clarifications on the policy and procedures.
- Assist in monitoring offsets provisions.
- Technical vetting of offsets proposals.
- Interact with Headquarters of Integrated Defence Services and Service Headquarters.
- Advice on areas in which offsets will be preferred.
- Provide assistance to the Contract Negotiating Committee (CNC) in negotiating offsets.
- Evaluation of commercial offset offers.
- Promote exports of defence products and services.
- Set up committees and subgroups for studies and evaluation.
- Engage reputed professional expert bodies to assist in its functions.
- Commission studies by expert bodies on offsets policies, their implementation, utility and impact.

MiG-35

EVOLUTION PROGRAM



The new MiG-35 multi-functional fighter is the latest groundbreaking design from the Russian Aircraft Corporation "MiG". The aircraft features enhanced combat effectiveness and survivability, expandable A-A and A-G weapon suite, improved operational performance.

The MiG-35 sports cutting-edge active phased-array radar and state-of-the-art optoelectronic systems of detection, sighting, navigation and reconnaissance based on space technologies.

The program of development and production of the MiG-35 fighters for the Indian Air Force MMRC tender envisages full-scale technology transfer and further evolution of cooperation with the Indian industry.



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Indian Armed Forces

Modernisation and Acquisition Plans

The Chief of Air Staff, Air Chief Marshal S P Tyagi: "We have a comprehensive modernisation plan and the IAF is working towards achieving its desired capabilities through a 'perspective plan' for 10-15 years."



On the IAF vision to enhance its strategic reach and build all weather precision attack and network-centric warfare capabilities

The Prime Minister, Dr Manmohan Singh had in 2004 stated that India's strategic footprint covered the region bound by the Horn of Africa, Central Asia, South-East Asia and beyond, to the far reaches of the Indian Ocean. He had also directed that we orient our strategic and defence plans accordingly. The IAF vision therefore encompasses a 'Strategic Reach.' The IAF may be called upon to conduct a swift and decisive offensive air campaign, or disaster management and humanitarian tasks, or UN Tasks. We, there-

fore, require a sizeable fleet of multi-mission aerial refuelling capable fighter helicopter and transport aircraft and a strong air defence network. We need to build our space and reconnaissance assets to obtain very accurate, near real time pictures of the battle space. Some of these capabilities are already available to a limited extent.

Many of our fighters now have air to air refueling (AAR) capability and we are a 'trans-oceanic Air Force.' Improved surveillance is also around the corner, with the Aero-stats, Air-borne Warning and Control System (AWACS) and new radars. Space-based surveillance is also about to improve. Our 'area of interest' is vast and we will require more

AWACS for its air defence. Towards networking and communication, we are in an advanced stage of setting up 'operational centres' at all our commands; the Air HQ already has one and operationalisation of the IAF Wide Area Network (WAN) would enhance connectivity all round. This would be further bolstered by modernisation of the existing ADGES communication.

It is well known that we have plans to procure Multi-Role Combat Aircraft (MRCA), trainer aircraft, simulators, UAV, precision weapons, electronic warfare (EW) systems, radars, advanced sensors and better weapons. We do have plans to upgrade, replace and fill in the gaps in all our inventories. We are co-producing a unique version of the Su-30. The light combat aircraft (LCA) and Intermediate Jet Trainer (IJT) programmes are the other initiatives underway. We are upgrading our older fleets to utilise them effectively over their remaining life. The IAF is seeking to acquire more smart weapons for situations that require surgical strikes, for maximum effect with minimum force, and to prevent collateral damage.

We have a comprehensive modernisation plan and the IAF is working towards achieving its desired capabilities through a 'perspective plan' for 10-15 years. This plan is synchronised with our threat perception, our national aspirations and our operational

requirements. The Government is providing the necessary resources, but the process of inducting complex weapon systems is a lengthy one that would be achieved over a period of time.

On impediments, if any, to IAF's modernisation plans

During the 9th Plan period funds available for modernisation were limited; as a result the IAF concentrated on sustenance of its combat force. However, in the 10th Plan funds for modernisation are being made available. Therefore, the emphasis in the latter part of the 10th Plan period and the 11th Plan period has shifted from sustenance to modernisation, which includes induction of major weapon systems and armament as well as upgrade of infrastructure. Therefore, I can state with confidence that the IAF is on track with its phased modernisation plans.

On the upgrades of ageing aircraft

For aerospace platforms, upgrade of capabilities is a natural process, as new acquisitions are extremely costly. The MiG-21 Bison and MiG-27 upgrades are underway. A contract for upgrading the MiG-29s is likely to be signed in December 2006. Though there is no specified life for aircraft of Western origin, upgrades of the Jaguar and Mirage 2000 are likely to fructify early in the 11th Plan period. We are in the process of finalising our Special Op-

erational Clearance (SoC), and will have the RFP ready by the year end. The RFP for upgrade of Mi-8 and Mi-17 helicopters is expected to be issued shortly. With regard to the transport aircraft, upgrades are planned on IL-76/78 ac and on the An-32. We are working on the SoCs for these.

On Stemming the downside in IAF's combat capability

To arrest the depletion of combat strength, the completion of delivery of HAL manufactured Su-30MKI has been advanced by two years. Further, IAF has signed contracts for additional Jaguar aircraft. The RFP for the MRCA has also been finalised at Air HQ. It must be appreciated that such large projects would take time to fructify. Presently, the MoD's approval for issue of RFP is awaited.

On the proposed acquisition of the indigenous LCA (Tejas) for the IAF

The IAF has contracted for 20 LCA in the 'Initial Operational Clearance' (IOC) configuration. These aircraft are to be delivered in small batches from April 2009 to December 2011. Simultaneously, the D&D work for the FOC (Final Operational Clearance) configuration is continuing at the respective work centres. The next 20 aircraft would be ordered in the FOC configuration, while the initial lot of 20 aircraft in IOC configuration would be brought upto FOC standards subsequently. With the participation and oversight of various agencies in the LCA programme, we are confident that the LCA would meet our operational requirements.

In all its acquisitions, the IAF follows the Government stipulated Defence Procurement Procedures. However, I

must add that to hasten operational induction of the Tejas and to help produce the best aircraft possible, the IAF is proposing to join the project management team and embed its personnel in each stage or process. This is because we feel it is essential for the 'customer' to now come on board for the host of advantages such a step will bring.

On the plans to modernise its air defence

The IAF has already initiated a case for procurement of 'Medium Power Radars' (MPR) and 'Low Level Transportable Radars' (LLTR) to meet the requirement arising out of obsolescence of the older radars. The case for procurement of MPR, for which the RFP was issued is at a very advanced stage, whereas for procurement of LLTR, the RFP is likely to be issued shortly. Adequate budgetary provisions have been made in the Acquisition Plan for these procurements. Ballistic missile defence is doctrinally the responsibility of the Air Force, as a sub-set of Air Defence. The IAF is therefore interested and will examine any system developed or acquired by the DRDO, which would include both the EW aspect and the 'interceptor'.

On the acquisition of UAVs as force multipliers

IAF is integrating the UAV with a variety of weapon platforms. Yes, the IAF is considering the addition of UCAV to its inventory, perhaps in the 11th Plan period. We would also upgrade, modernise and expand the existing fleet. Keeping in mind their own specific requirements, all the three services have inducted UAVs. Similar type of UAV systems do allow for synergy and integration with the existing

weapon platforms of the three services. We are in the process of formulating joint operational directives and employment philosophies for optimal exploitation of this potent 'Force Enabler'.

On enhancing air transport capabilities

There are plans to enhance our transportation capabilities in the 15-20 ton payload category. This is proposed to be undertaken as an Indo-Russian joint venture. The ASR for the medium transport aircraft (MTA) have been finalised by both the Russian and Indian sides and a draft 'Inter Governmental Agreement' has also been finalised. The detailed project report for the design and development (D & D) phase will be submitted by HAL in consultation with the Russians. The IAF proposes to procure 45 aircraft, while the Russians have indicated a requirement of 100. We are looking at the C-130J aircraft for its specialised role of airlifting special forces. In addition, the IAF is also processing a case for procurement of six more flight refuelling aircraft (FRA) through a global RFP, which is under finalisation.

On the plans to acquire 80 helos of Mi-17 class, to augment its rotary wing

The inventory of helicopters is being increased. The IAF proposes to procure 80 Mi-17 helicopters from Russia. The procurement would be funded by the IAF and the aircraft would be a part of our inventory. As always, a substantial portion of our helicopter fleet's task is towards support of the Army and aid to civil authority. With the new inductions, we would be better placed to execute these. •

In Brief ...

Lockheed Martin and Boeing form strategic alliance

Lockheed Martin and Boeing have announced on January 22, that they have formed a strategic alliance to promote advancement of the future US air transportation system. Aviation forecasts predict a two to three-fold increase in air traffic by 2025. The Federal Aviation Administration's (FAA) next-generation air transportation system is critical to the continued growth of aviation and the US economy. Boeing and Lockheed Martin officials said that by working together, the companies can leverage their expertise in air traffic management and aircraft-centric solutions to implement bold changes.

Paveway guided flight trials programme successfully completed

The guided flight trials development programme for the Raytheon PavewayTM IV dual-mode precision guided weapon was successfully completed with the fourth and final release from a British Aerospace Harrier GR9. Paveway IV is the next generation of the combat-proven Paveway family of precision guided munitions. It is jointly developed by Raytheon Systems Limited (RSL) in the UK (Prime Contractor) and Raytheon Missile Systems in the US to meet the UK's Precision Guided Bomb requirement.

Northrop Grumman's ASIP takes to air

Northrop Grumman's Airborne Signals Intelligence Payload (ASIP), a next generation signals intelligence sensor for the US Air Force (USAF) was launched on its first flight aboard the U-2 aircraft for testing. ASIP delivers enhanced signals intelligence capabilities by detecting, identifying and locating radar and other types of electronic emissions. A key attribute of the ASIP payload is an open, scalable architecture that allows future system upgrades to be easily added and sensors readily reconfigured in support of evolving war fighter needs. The ASIP industry team includes Northrop, Lockheed, L-3, and Raytheon.

Indian Armed Forces

Absorbing Emerging Technologies



The Chief of Army Staff, General J J Singh: “The main focus of our modernisation is to absorb emerging technologies to keep pace with the Revolution in Military Affairs.”

On the Indian Army's readiness for Network Centric Operations

A major thrust is being accorded to development of Network Enabled Warfare capabilities (as I prefer to call it). This encompasses development of operational information systems to engage in network enabled operations and concurrent development of the necessary communications infrastructure. As part of this endeavour, a variety of

systems are being developed in conjunction with the Defence Research and Development Organisation (DRDO) and Defence Public Sector Units. Many of the systems have undergone field trials and are in the process of being fielded.

The challenges faced in implementing this concept are the same as those encountered by other armies the world over. The major challenge is technological, but or-

ganisational issues also need to be addressed. In addition, such systems demand huge financial investments. We are going about it in a phased manner, wherein systems will be fielded over a period of time. Priorities of fielding have also been decided. This approach will also allow us to effect improvements and upgradations simultaneously. The biggest challenge that we face is the fast pace at which technology is becoming obsolete. We have to draw a fine balance between ongoing technological advancements and the imperatives of our operational requirements. The Indian Army is moving forward at a steady pace. Our development activities are not too behind other advanced armies.

On the Army's need for modernisation

The Indian Army's strategic vision envisages an optimally equipped and weaponised force, with the capability to operate effectively in a joint services environment in the entire spectrum of conflict, in a regional context. The main focus of our modernisation is to absorb emerging technologies to keep pace with the 'Revolution in Military Affairs.' We are laying special emphasis on revamping our surveillance and intelligence gathering systems and to integrate these into our decision making. Moreover, as the future battle field is likely to be fluid and fast paced, requiring quicker response, we are revamping our communication systems

to achieve true networking. Our long term plans aim to modernise the force through specific milestones to induct cutting edge technologies to make the Indian Army light, rapidly deployable, and more lethal at extended ranges and supported by requisite space based information and surveillance capabilities. Additionally, for an emerging modern military power to retain its strategic autonomy, self-reliance and indigenisation is a must. Therefore, considerable emphasis is also being laid on encouraging indigenous development of equipment by the DRDO as well as private industry.

On plans to make the Special Forces more potent

The requirement of Special Forces and their concept of employment are reviewed periodically. Changes are made to meet our operational requirements. Based on past experience, shortages and outdated weapons and equipment, a comprehensive review has been undertaken to modernise the Special Forces. The focus in the near future is to equip and modernise the Special Forces with state-of-the-art weapons and equipment, as well as upgrading training levels and language skills.

On the time frame for implementation of the project, 'future infantry soldier as a system'

The project is likely to fructify in the 12th Army Plan (2013-2017) and will be fielded by the year 2013-14.

There is no delay of any army project for lack of funds. Adequate funds for the project will be made available once the project fructifies.

On UAVs for the Indian Army

The process of induction of UAVs in the Indian Army commenced in 1999, when UAVs were first procured for the Armed Forces. Subsequently, in November 2002, another set of UAVs were contracted. These UAVs have since been operationalised. The hands on experience gained by induction and operationalisation of the UAVs, coupled with the process of reorganisation of Surveillance and Target Acquisition (SATA) units manning the UAVs, have resulted in identifying the UAV requirements of the Indian Army in a comprehensive manner. The process for acquisition of UAVs for meeting our operational

requirements in mountains is under process. Two troops of UAVs capable of operating in High Altitude Area (HAA) and having longer endurance are under acquisition. The plan for equipping the field formations with UAVs has been finalised. The operational needs of UAVs of the Indian Army will be met jointly by UAVs procured ex import as well as indigenous UAVs. The process of operationalisation of the UAVs is an ongoing process, which is likely to be completed over the next 10 to 12 yrs (Indian Army 12th Plan).

On modernising the Indian Army's air defence systems

There is no denying the fact that in order to counter the current and future threats, a potent and an effective air defence capability will be an essential requirement. At present, the combat inventory of Army Air Defence does

have certain drawbacks. In order to address this, a three-pronged approach is being followed. First, efforts are on to induct a limited quantum of state-of-the-art equipment, both through import as well as the indigenous route to meet immediate operational needs. The second prong of the strategy is to qualitatively upgrade our existing inventory through contemporary product improvements and 'enabling technologies.' The third prong is to ensure sustenance of other vintage inventory by overhauling. Lastly, to ensure that our weapon systems can be used in a most optimal manner, a matching command, control, communication and a Battle Management System is also being developed.

Given the ongoing efforts, I am sure our air defence will be able to give a befitting reply to any air threat in the foreseeable future. •

In Brief ...

Raytheon's HARM variant successfully hits target

Raytheon successfully demonstrated the enhanced navigation accuracy capability of a new variant of HARM called "HDAM" for HARM destruction of enemy air defence attack module, the new variant adds INS/GPS (inertial navigation system/global positioning system) capability to the battle-proven HARM, greatly improving its effectiveness while significantly reducing collateral damage and the threat to friendly troops. The missile, launched from an F-16, was fired against a simulated surface-to-surface missile launcher.

F-35 achieves flawless flight

The Lockheed Martin F-35 Lightning II achieved another successful test flight from the company's Fort Worth, Texas, facility. Approximately 10 minutes into the flight, Beesley retracted the landing gear and climbed from 15,000 to 20,000 feet to evaluate handling qualities and engine operation in the cruise mode at Mach 0.6 and Mach 0.7.

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and the latest MiG-29 upgrade offered to the Indian Air Force could be one of the decisive trump cards in the MMRCAs tender.

This line on unification can be further traced with regards to the MiG-35 optronic system. Its built-in targeting and sighting suite has extended capabilities developed from the MiG-29K. In addition the aircraft has been equipped with a conformal opto-electronic pod located under right wing air intake. Obviously the new station installation extends the new MiG's strike capabilities. According to the MIG Corporation the system solves all the navigation tracing, targeting and reconnaissance tasks day and night.

In comparison with its predecessors, in particular the MiG-29M2, the MiG-35 has more enhanced capabilities due to the new optical devices installed on the top and bottom of the airframe as well as on the wings' trailing edges. According to the team of MIG experts these are part of the aircraft's self defence system



enabling it to trace hostile missiles and laser beams.

It has been mentioned that RAC MIG has found a new partner to develop the MiG-35 optronics, namely Precision Instruments Research Institute. This partner has extensive and advanced experience in the field of space systems

development and delivers new technologies for the new aircraft.

With this technology it seems that RAC MIG has succeeded in dramatically increasing the technological level of the avionics on the MiG-35 to make it a very serious rival to its western competitors. •

'Go-ahead' for the development of the Euro Hawk

The German Ministry of Defence (MoD) has awarded a € 430 million contract to EuroHawk GmbH, a joint venture company formed by EADS and Northrop Grumman Corporation, for the development, test and support of the Euro Hawk® unmanned signals intelligence (SIGINT) surveillance and reconnaissance system.

The Euro Hawk® Unmanned Aerial Vehicle (UAV) is a Northrop Grumman-produced US Air Force RQ-4 Block 20 Global Hawk derivative equipped with a new SIGINT mission system developed by EADS. The SIGINT system provides stand-off capability to detect electronic intelligence (ELINT) radar emitters and communications intelligence (COMINT) emitters. EADS will also provide the ground stations that will receive and analyse the data from Euro Hawk® as part of an integrated system solution for the German customer. Delivery of the first demonstrator is scheduled for 2010. Planned delivery of the following four UAVs is scheduled between 2011 and 2014. The Euro Hawk® systems will replace the aging fleet of Breguet Atlantic aircraft, which have been in service since 1972.

Stefan Zoller, Member of the EADS Executive Committee for Defence & Security Systems, welcomed the German Budget Committee approval: "This decision is a further step forward in our transatlantic cooperation. With Euro Hawk® the German Air Force will be able to cover its own future reconnaissance requirement with ground breaking technology, thus enabling the German Air Force to assume control of its intelligence activities. This gained information superiority is a decisive contribution towards improving the safety of our troops in the field. Furthermore, Euro Hawk® is convincing proof of how the Bundeswehr is transforming and acquiring network enhanced capabilities. With this project being realized, UAV technology takes a remarkable step forward in Europe."

The Head of the Military Air Systems Business Unit, Johann Heitzmann, stressed: "Our most important aim will



be to deliver Euro Hawk® in top quality and on time to our customer. Through the first-class technology of this reconnaissance system, the German Air Force will be even more able to fulfil its mission in the future." Scott J. Seymour, President of Northrop Grumman's Integrated Systems sector, added: "This programme has been a major collaborative effort and Northrop Grumman is committed to ensuring Euro Hawk® is a continued success story in the history of transatlantic cooperation."

Euro Hawk® is controlled by ground-based operators and is projected for up to 30 hours of uninterrupted flight. This unmanned aerial vehicle has a maximum takeoff weight of about 14 tonnes and can reach a speed 555 km/h. It is approx. 14 m long and has a wingspan of about 40 m. It is a HALE UAV (High Altitude Long Endurance Unmanned Aerial Vehicle) and will operate at altitudes of up to 20 km.

The six successful flights conducted in October of 2003 at the German Naval Base in Nordholz demonstrated the technical feasibility of using an unmanned platform carrying an ELINT type sensor to conduct wide area surveillance missions. The Global Hawk ELINT demo was also the first successful operation of a UAV in controlled European airspace,



paving the way for further developments of unmanned flight in Europe. •

UAVs key to future decision superiority

Commander of US Air Forces in Europe, General William T Hobbins has stressed the importance of Unmanned Aircraft Vehicles (UAV), in air, space and cyberspace missions of the US Air Force and NATO. He also said that the UAV of the future will be an equal participant in all three domains and the key to future decision superiority. By the year 2010, unmanned aircraft are expected to grow from 4% of total funding for all aircraft to 31%.

Other salient aspects regarding the UAV which he mentioned are:

- The global picture on unmanned systems has changed dramatically due to the information age technology finding its way into UAV.
- The UAV acts as a powerful force multiplier.
- More than 40 countries are operating more than 80 types of UAVs.
- The US has at least 18 types and is operating 3,000 UAVs.
- The list of missions has expanded from the traditional reconnaissance, surveillance and target acquisition missions to 36 non-traditional applications, including digital mapping and day and night strike.
- 17 NATO nations have more than 25 operational models of aircraft, with more than 3,600 operational unmanned aircraft in NATO.
- With a large number of manned and unmanned aircraft in the air, the problems of air space management, command and control, integration and interoperability and force development acquire greater importance.

Honeywell Aerospace – Leading the Way

Led by Robert L. Gillette, Executive Vice President and Chief Operating Officer, Honeywell Aerospace has notched up sales of nearly US \$11.1 billion. Headquartered in Phoenix, Arizona, Honeywell Aerospace employs 40,000 persons at 97 worldwide manufacturing and service sites. It is a leading global provider of integrated avionics, engines, systems and service solutions for aircraft manufacturers, airlines, business and general aviation, military, space and airport operations.

The primary focus of Honeywell Aerospace is to use its unique capabilities in avionics, flight safety products and systems, propulsion engines, auxiliary power units and wheels and brakes. In addition, the company provides aftermarket service and support to enhance customer value by making flights safer, more reliable and more cost-effective. The organisation is committed to redefining customer-supplier relationships across a broad array of channels through a spirit of partnership.

In the air and on the ground, Honeywell's aerospace products can be found on virtually every type of aircraft in use, in nearly every region of the world. Honeywell systems and components reflect innovative and advanced technologies incorporated from the company's product development efforts.

Key Honeywell aerospace systems include consumable parts; air data systems; aircraft landing systems; airport guidance and control systems; runway lighting; auxiliary power units; commercial and military avionics, including enhanced ground proximity warning systems, collision avoidance systems and weather radar systems; engine systems and acces-

sories; environmental control systems; flight control systems; flight displays and guidance systems; interior and exterior aircraft lighting; hardware and logistics support; management and technical services for space and communications facilities; and ground power systems; power management and generation systems; repair and overhaul services; satellite communications; satellite landing systems; and turboprop, turboprop and turbo-shaft propulsion engines. The company also supplies more than 20 systems for the space shuttles including flight displays, integrated GPS/INS, anti-skid electronics, accelerometers, autoland technologies, and thrust vector control actuators. Honeywell also provides main engine controllers and a variety of services for the shuttle orbiter. •

Growing Presence in India

Honeywell's business presence in India adds up to US \$500 million in value, which is growing each day. Honeywell business at previous Aero India shows has been both advantageous and successful. Their presence in India dates back many decades and currently the Honeywell businesses are headquartered across four major locations in India – Pune, Bangalore, Chennai and Gurgaon, employing more than 7500 people. The Superbrands Council of India has recognised Honeywell as a "Business Superbrand." Honeywell has a strong decades-long presence in India, supporting important manufacturing programmes and continually working with the Indian government to expand them and establish new partnerships. Honeywell is supporting partnerships with the Indian government through dedicated corporate sponsorship at the highest levels of government and industry.

First flight in Italy for the Sky-X, unmanned aircraft

The Sky-X, the Alenia Aeronautica next-generation unmanned demonstrator aircraft, has made the first flight in Italy. Entirely financed, designed, developed and manufactured by Alenia Aeronautica, a Finmeccanica company, the Sky-X is now based at the Italian Air Force's Base of Amendola, near Foggia, to carry out a new series of flight tests, after a series of test flights made during the last two years at the Vidsel Base in Sweden, near the Arctic Circle. These tests are the first ever to take place in Italy for the first European Unmanned Aerial Vehicle of over-1-ton weight category to have flown.

After having obtained the go-ahead by ENAC, Italian Civil Aviation Agency, for this specific category of unmanned aircraft and thanks to the collaboration of ItAF that has allowed the use of its facilities, the Sky-X has taken off and flown to reach the testing area, in Manfredonia's Gulf, controlled

by the base's ground station under the control of an Alenia Aeronautica's test pilot. The flight has been followed by an Italian Air Force's Alenia Aermacchi MB.339 in the role of chase plane, with a

test pilot from Alenia Aeronautica on board. During the first flight, that has lasted about 25 minutes, the Sky-X has reached an altitude of around 2000 m. The flight has made it possible to check several operational parameters and to test the aircraft's full automatic mode and navigation systems.

The Sky-X's testing activity in Italy will go on in the next weeks for a flights' campaign necessary to complete a programme of checks and technological developments of this innovative aircraft. The Sky-X, that has made its maiden flight on May 29 2005, is a jet-engined unmanned aerial vehicle, con-



ceived for a wide range of civil and security missions, ground observation, surveillance and strategic reconnaissance. •

Sky-X is about 7 metres long and has a wing span of almost 6 metres. It can carry a technological payload of 200 kg with a maximum take-off weight of 1,200 kg. It is equipped with a SNECMA Microturbo TRI60-268 jet engine, is designed for a max speed of 350 kts, cruises at 260 kts and is able to reach altitudes about of 25000 ft, operating at high-load factor (5 g). The Sky-X's external configuration includes several features typical of low observable aircraft.

Embraer foresees US \$220 billion jet market by 2026

Embraer has revealed its 20-year forecast for world demand of 30 to 120-seat commercial jets, as well as for the business jet market. Embraer has also announced its airline and business jet delivery forecast for 2007 and 2008. Embraer foresees a global demand for 7,500 jets in the 30 to 120-seat capacity segment over the next 20 years. The

company estimates that 3,050 aircraft will be delivered between 2007 and 2016, with the remaining 4,450 units to be delivered between 2017 and 2026 with an estimated market value of US \$ 220 billion. Seat-wise segment is estimated as follows:

- 30-60 Seats: 1,400 aircraft
- 61-90 seats: 2,600 aircraft

- 91-20 seats: 3,500 aircraft

The forecast indicates that the 30 to 60-seat market segment has reached maturity, but will continue to play an important role in the North American and European air transportation systems and will develop markets such as China, Mexico and Russia that have strong needs for regional aviation. •

contd from page 14...

1330 – 1525 Hrs

Session II:

DEVELOPING WORLD CLASS INFRASTRUCTURE AT AIRPORTS

In Chair Mr. Pradeep Singh, CEO, IL & FS & Chairman, FICCI Urban Infrastructure Committee*

Speakers:

- World Class Infrastructure at Airports by Mr. David Inglis, Asst Dir, Airport Development, Intl Air Transport Association-Asia Pacific *
- Financing of Airport Projects by Mr. M K Sinha, Executive Director, IDFC Ltd *
- Air Traffic Management by Mr. Robin Deyoe, Sales Dir, NATS, UK *
- Developing Airports at Metropolitan Cities by Mr. Albert Brunner, CEO, Bangalore International Airport Ltd *
- Developing Non-Metro Airports by Mr. V P Agrawal, Member (Planning), Airports Authority of India, Government of India*
- Safety and Security in Airports by Mr. S R Mehra, Commissioner of Security, Bureau of Civil Aviation Security, Ministry of Civil Aviation, Government of India *

- Q & A Session

1525 – 1545 Hrs Tea break

1545 – 1715 Hrs

Session III:

AIRLINES 2007: OPPORTUNITIES AND CHALLENGES

In Chair Mr. R K Singh, Joint Secretary, Ministry of Civil Aviation, Government of India *

Speakers:

- Dr. Vishwapati Trivedi, Chairman & Managing Director, Indian Airlines *
- Captain G R Gopinath, Managing Director, Air Deccan *
- Mr. Jehangir Wadia, Managing Director, Go Air *
- Q & A Session

DAY 2: Friday, February 9, 2007

1030 – 1145 Hrs

Session IV:

IT APPLICATIONS IN AIRPORTS

In Chair Mr. Rajeev Chandrasekhar, Chairman & CEO, Jupiter Capital & Vice President, FICCI *

Speakers:

- Total Outsourcing: Concept and Relevance to the Airline Business by Mr. Sam N Mathew, Head – Client Solutions, Total Outsourcing, Wipro *
- Infrastructure Management at Airports through World Class IT

Applications by Dr. Chandan Chowdhury, CEO, IFS India *

- Mr. Shrimanikandan A., Global Head, Airports Industry Sub Practice, Tata Consultancy Services *

- Q & A Session

1145 - 1200 Hrs Tea Break

1200 - 1320 Hrs

Session V:

AIRCRAFT REPAIR AND MAINTENANCE

In Chair Mr. Ranjan Chatterjee, Joint Secretary, Department of Defence Production, Ministry of Defence, Government of India *

Speakers:

- India's Explosive MRO Growth: Driving Success by Mr. James G Brunke, Vice President, Global Maintenance Repair and Overhaul Services, The Boeing Company *
- Airbus MRO Support by Dr. Wolfgang Kortas, Senior Director, MRO Support Management, Airbus *
- Services & Needs for the Indian MRO Market by Mr. Andreas Kehl, Director Sales, Southeast Asia & Australia, Lufthansa Technik AG *

- Q & A Session

1320 – 1415 Hrs Lunch

1415 – 1530 Hrs

Session VI:

HUMAN RESOURCE DEVELOPMENT, TRAINING & SKILL DEVELOPMENT

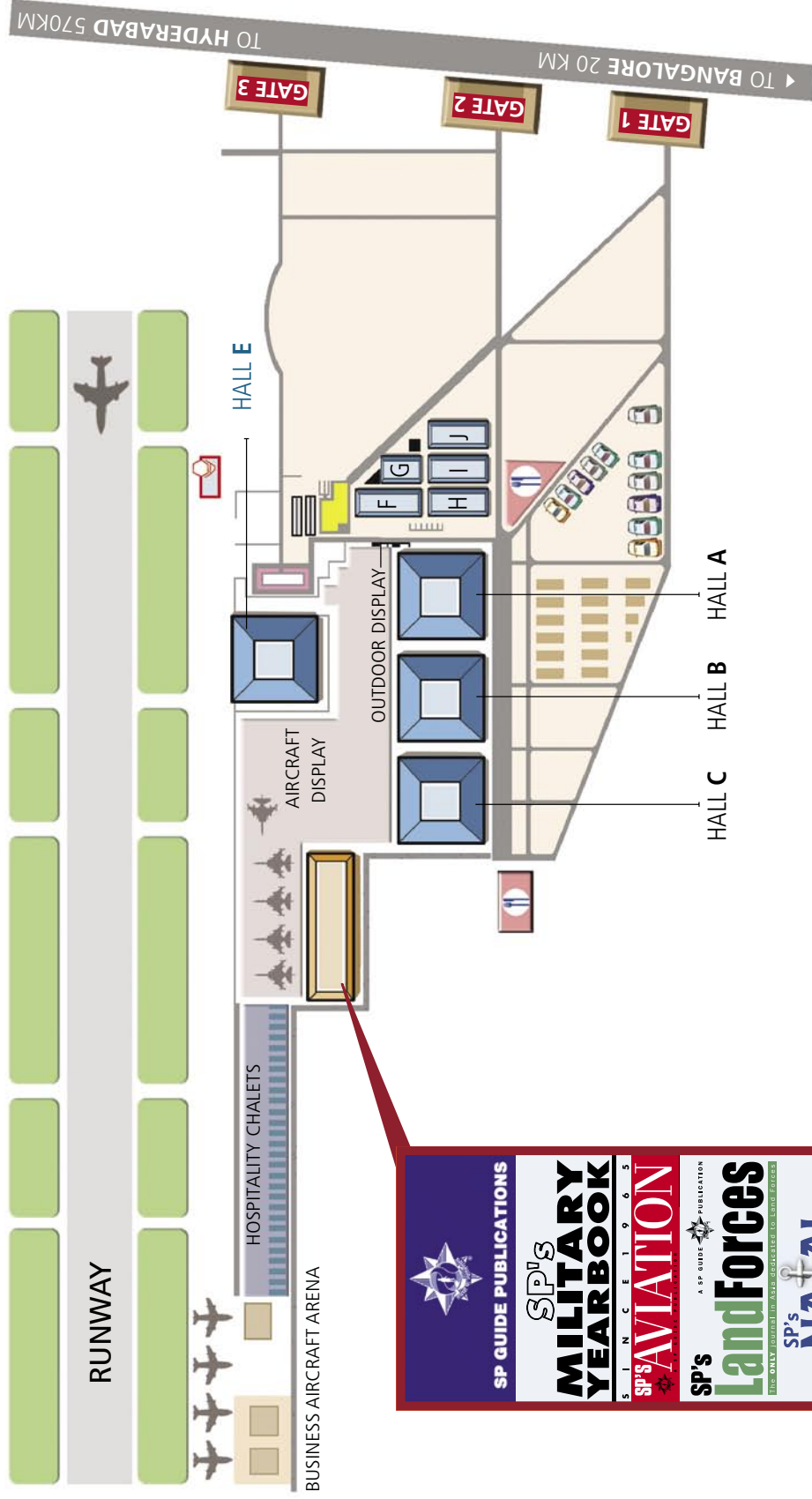
In Chair Mr. Rizwan Kadri, Chairman, Indian Aviation Academy *

Speakers:

- Ms. Susan Wong, Vice President, Mil-Com College, Mil-Com Aerospace Training Centre *
- The Aerospace Workforce Challenge in America: Opportunity for India? By Mr. Jeremiah Gertler, Asst V P, Defense Policy, Aerospace Industries Association, US *
- Development of Training Strategy - TRAINAIR Methodology by Mr. B. N. Madhava Rao, Executive Director & Principal, Civil Aviation Training College, Airports Authority of India, Government of India *
- HR Management – Infosys Approach by Mr. Bikramjit Maitra, Vice President and Global Head – HR, Infosys *
- Q & A Session •

*Confirmed

AERO INDIA 2007





SP GUIDE PUBLICATIONS

SP's MILITARY YEARBOOK

S I N C E 1 9 6 5

SP's AVIATION

SP's

LandForces

A SP GUIDE PUBLICATION

THE ONLY JOURNAL IN INDIA DEDICATED TO THE FORCES

SP's

NAVAL FORCES

A SP GUIDE PUBLICATION

THE ONLY JOURNAL IN INDIA DEDICATED TO THE FORCES

HALL D

BOOTH 1.5, 1.6 & 1.7

A to Z of Exhibitors

Exhibitor Name	Hall No.	Stall No.
3 D Contech	A	4.7 (a)
A S Popov Communication	A	2.5
A.D.R. S.a.s	B	4.3
Accord Software & Systems	B	3.3
Accurex Solutions	H	1.3
Acra Control	B	2.12
Action Aviation	J	2.5 (a)
Acutronic AG	B	1.9
ADPR Consult Sdn Bhd.	G	3.1
Advance Tech. Controls	E	5.13
Aerea	C	3.1
Aerial Services	H	2.3
Aero Maoz	A	5.2
Aeromedia Publishing House	B	3.4
Aeropriobor - Voskhod JS	A	2.2 & 2.3
Aerostaff Australia	C	5.1
Aerostar SA	C	1.1
Aerotechnica Corporation	B	2.11
AFSY	A1	6
Agarwal Rubber	F	35
Agusta Westland	C	3.4
AIAD And MOD Italy	C	1.1
AIR LIQUIDE	B	4.3
Air New Zealand Airline Training	J	3.1
Alenia Aeronautica SpA	C	3.4
ALKAN	B	3.13
Allied International Corporation	J	2.2
Alpha Design Technologies	B	3.5
Altair Engineering India	I	1.1
AM General LLC	Outdoor	7
Amado Tools	F	10
Ampex Data Systems Coporation	J	3.3
Amphenol Interconnect India	C	1.2&1.3
Ankit Forgings	F	31
ANTAVIA	B	4.2 (d)
Apollo Computing Lab	I	3.1
Apollo Metal	C	4.11
Arianespace	F	2
Army Aviation	D	2.4 (c)
Arrow Aviation Services	I	3.3
Artisys s.r.o	A1	1
ASE SpA	C	3.3
Asian Military Review	I	1.7
Astra Microwave Products	H	1.1
AT Czech s.r.o	A1	1
ATR	B	2.7
Augen Technologies Software Solutions	I	1.2

Exhibitor Name	Hall No.	Stall No.
Australian Trade Commission	C	5.1 (d)
Autotec Systems	D	1.3
Avasarala Technologies	A1	3
Avdel Aerospace	F	26
Aviaavtomatika Design Bureau "Pribor" JSC "	A	2.2 & 2.3
Aviaexport P & C	A	2.5
Aviation Australia	C	5.1
Aviation Gearboxes and Transmissions - Perm Motors (OJSC Reductor - PM)	A	2.5
Aviation Industry Group	C	4.8 (f)
Aviation Week & Space Technology	E	5.1
Aviazapchast PLC	A	2.2 & 2.3
Avimarine (Australia)	E	3.11
Avi-Oil	F	25
Avionica Moscow Research and Production Complex JSC	A	2.2 & 2.3
Ayyappa CNC	G	2.3 (c)
BACHMANN SAS	Outdoor	3 (a)
BAE Systems	C	4.6, Out Door 11, Chalet 13
BAeHAL Software	E	5.1
BDL Iev German Aerospace Industries Association	A	4.6 (b - 1)
Bell Helicopter Textron	E	2.8-2.11 & 2.6
Bengal Waterproof	A1	7
Bharat Dynamics	C	3.9
Bharat Earth Movers	G	2.2
Bharat Electronics	D	2.6, 1.17 - 1.19, 1.20 - 2.8, 3.21 - 3.24, Chalet 11 & 12
Bharat Rakshak	I	3.12
Bijal Petroleum Equipment Corporation	B	3.1
Bney Meir	A	5.9
Boeing	E	2.5 / Chalet 29-32
Bombardier	E	4.3 / BAA 1 & 2
BrahMos Aerospace	E	2.4 (b)
Bumar Sp. Zoo	A1	16
Business & Commercial Aviation	E	5.1

Exhibitor Name	Hall No.	Stall No.
Business Intelligence Services	E	5.1
Butler Technical Services	E	1.6
C Gear Australia	C	5.1
CADES Digitech	C	2.5
Capgemini Consulting	H	3.5
Captronic	G	1.1 & 1.2
CENAERO	I	2.1(b)
Cessna Aircraft Company	E	2.8-2.11 & 2.6
CFM International	B	2.3
Chanakya Aerospace Defence & Maritime Review	C	1.4
Chelton	C	4.8K
Chernyshev jsc	A	2.4 / Chalet 37
CI Systems	B	1.1
CIM Tools	G	2.3 (a)
Cincinnati Machine	E	1.13 & 1.14
CIRA Scpa - Italian Aerospace Research Centre	C	4.1
Classic Mould	F	8
CM Envirosystems	H	1.6
CNR Trade Fairs	A1	13
Cobham Air Refuelling & Auxiliary Mission Equipment Division	C	4.8K
Cobham Defence Communications	C	4.8K
Cobham plc	C	4.8K
ComAvia Systems Technologies	F	29
Commercial & Business Aviation Service	I	3.1
Complete Parachute Solutions	E	4.6
Concept Shapers & Electronics	H	1.13
Connekt Electronics	F	19
Controp Precision Technologies	A	4.2 (b)
Coral Digital Technologies	H	3.1
Corbus (India)	A1	8
CSM Software	D	2.2
Czech Invest (the National Investment and Business Development Agency of the Czech Republic)	A1	1
Czech Trade (The National Czech Trade Promotion Agency)	A1	1
Dassault Aviation	B	4.5

Exhibitor Name	Hall No.	Stall No.
Data Patterns	B	2.3 (a)
Datasol	C	1.6 & 1.7
Dean Wilson Aviation	C	5.1
Deccan Aviation	I	3.4 - 3.7
Defence Research Development Organisation	D	2.5, 3.5 to 3.15
& Aeronautical Chalet		
Development Agency		7-8
Defense News Media Group	E	5.12
Defense Technology Intl	E	5.1
Defenseworld.net	G	3.7
Degussa	A	4.11(a)
Department of Strategy and Quality of Services	A1	1
DESO	C	4.8 (m)
Deutsch India Connectors & Relays	E	1.4
Diamond Aircraft	G	1.4-1.7
Diehl BGT Defence	A	4.11
Directorate General of Aeronautical Quality Assurance	D	2.4 (b)
Directorate General Resettlement	D	2.4
DNL Exports (India) & Dhanalaxmi Tool Room Engineers	H	3.8
Doncaster Group	C	5.7
DSA Kualalumpur	I	1.4
Dynalog	B	1.11
Dynatomic Technologies	Chalet	35
Dynaspede Integrated Systems	H	3.1
EADS	B	2.6 / Chalet - 16
ECA Faros	B	1.6
ECA Sinters	B	1.6
ECE-ZODIAC	B	4.3
EDS Technologies	H	3.11
Eduard Wille	B	1.14
EIS Electronics	A	4.7 (a)
Elastomeric Engineers & Aerospace Engineers	F	24
Elbit Systems	A	4.3, 5.5 & 5.7
Elcus Electronic Company	A	2.2 & 2.3
Eldis Pardubice s.r.o	A1	1
Electron Beam Processes	C	4.8 (f)
Electrosignal Novosibirsk	A	2.5
Elektronik Lab	J	3.9
Elettronica	C	3.6
Elettronica Aster SpA	C	4.2
Elisra Group	A	4.3 (a)
Embraer	E	2.4 (a)

Exhibitor Name	Hall No.	Stall No.
Engine Alliance	E	1.8 - 1.11
Enstrom Helicopter Corp	J	1.5
EPICOS	C	1.9
ESCO Turbine Technologies	I	2.1 (e)
ESL Defence	C	5.8
Esterline Corp	C	4.8 (L)
Esterline Sensors Group	C	4.8 (L)
ETPS - Qinetiq	C	4.8 (d)
EUREP Industries	B	4.3
Euro Avionics Navigation Systems	B	2.1
Eurofighter	C	4.6 (a) / Chalet 36
Eurotrop	C	1.13
Exhibition Indian	J	1.9
e-Xstream Engineering	I	2.1 (d)
Farnborough Aerospace Consortium	C	4.8 (f)
Faro Business Technology	I	3.13
FGUP NPP Polyot " "	A	2.5
FIDAE 2008	J	3.13
Filtronic Components	C	1.12
Finmeccanica	C	3.4
Flash Forge	C	2.3 (b)
FORCE	I	1.9
Foresight Solutions	I	3.9 Chatel : 34
Forges De Bologne/manoir Industries	B	4.1(a)
Forges De Zeeburgge	I	2.1 (g)
FormTech	A	4.7 (a)
French MoD - DGA	B	3.1
FSUE MMBPE "Salut" "	A	1.4
G.D. TECH	I	2.1 (I)
Galileo Avionica	C	3.4
GE Aviation	E	2.4(d) Chalet 28
GE India Industrial; Div:	A1	5
GE Sensing		
Gem Engineering Inds	I	1.5 & 1.6
Genser Aerospace & Information Technologies	I	1.12 & 1.13
GIFAS	B	4.3
Gippsland Aeronautics	C	5.1
GKN Aerospace	C	4.8 (j)
Gripen International	Outdoor	7
Gulf Aviation Guide / Media One Group	E	5.11
H R Smith Group of Companies	C	4.8 (g)
Hale Hamilton (Valves)	C	3.11
Hampson Aerospace	C	1.11
Handtmann A-Punkt Automation	C	3.7

Exhibitor Name	Hall No.	Stall No.
Hanse-Aerospace	A	4.7 (a)
Hanse-Aerospace	A	4.7 (a)
Wirtschaftsdienst		
Hardigg Europe	C	4.8 (f)
HBL Power Systems	B	2.2
HCL Technologies	I	2.4
Heinkel Engineering	A	4.7 (a)
Hentzen Coatings Inc	J	2.2
Hical Technologies	A1	2
HIGHTEMP Furnaces	G	2.3 (b)
HIGHTEMP VAC AERO	G	2.3 (b)
Hindustan Aeronautics	E	3.1 - 3.4, 3.5 - 3.6, 4.1 - 4.2, 5.2 - 5.6 / Chalet 4 - 6
Hindustan College of Engineering (TIFAC-CORE)	H	1.4
Hindustan Electro Technology	F	12
Hindustan Institute of Engineering Technology	H	1.4
Honeywell Aerospace	J	2.4
Horizon International Flight Academy, UAE	J	3.13 (a)
Hutchison	B	4.1 (b)
Hydrautest	B	1.6
Hynetic Electronics	H	3.13 (a)
Hypercoat. Bombay	H	3.3
IAF	D & E	2.4 (a) / 2.1
IAI -Israel Aerospace Ind	A	4.2
Ibilt Technologies	J	3.11
Icomm Tele .	A1	14
ILA 2008 Berlin Air Show / MESSE Berlin	A	4.6 (b - 2)
Imperial Defence Services	H	2.2
Indamer Company	H	2.3
India Strategic	D	1.11
Indian Aviation - Civil Military	G	3.2
Indian Defence Review	B	1.15
Indian Defence Yearbook	B	3.8 (a)
Indian Space Research Organisation (ISRO)	F	1
Indo German Chamber of Commerce	A	4.9
Indo Russian Aviation	C	2.4
Indra	C	1.14
Indus Aviation	A1	11
Indus Teqsite	B	2.3 (a)
Industrial Metals International	J	2.2

A to Z of Exhibitors

Exhibitor Name	Hall No.	Stall No.
Industry Capability Network (Victoria)	C	5.1
Infospectrum India	Outdoor	3b
Infotech Enterprises	B	3.8
Innovint Aircraft Interior	A	4.7 (a)
In-services Middle East	B	4.3
Integrated Digital Systems	G	3.3
Inter Vestnik (Airfleet)	J	3.8
International Aerospace (SAP Media)	D	1.1
International Aerospace Engines	C	5.5-5.6
Intertechnique	B	4.2 (b)
Interturbine Logistik	A	4.6 (b - 6)
Irkut Corporation	A	1.1 / Chalet 22
Israel Military Industries	A	4.4
ITT	C	3.11 (a)
J. S Precisions	G	2.3 (d)
J. V. Electronics	H	1.12
Jane's Information Group	C	4.9
JENA-OPTRONIK	A	4.6 (b - 2)
JET TURBINE SERVICES	C	5.1
Joint Stock Company - Plant for Electric Connectors (ISET)	A	2.2 & 2.3
Joint Stock Company - Ufa Engine Industrial Association “	A	2.2 & 2.3
JSC Tantal” “	A	2.2 & 2.3
JSC Aircraft Component Sourcing Company (MFG)	A	4.6a
JSC ARC Konversia	A	4.6a
JSC OPK Oboronprom	A	2.2 & 2.3
K.G.C. College of Technology	H	1.4
Kalapurna Steel & Engg.	D	3.1
Kamov Company	A	2.2 & 2.3
Karl Storz Endoscopy (I)	D	1.13
Karnataka Hybrid Micro Devices	F	28
KAZAN HELICOPTERS	A	2.2 & 2.3
Kedah Electronic Tech	H	1.5
Kilgore Flares Company	J	1.7
Kineco	A1	4
Kingsly Instrumentation and Communication	D	2.3
Kirkhill TA Company	C	4.8 (L)
Klimov Company	A	2.2 & 2.3
Kongsberg	B	2.1
Korry Electronics	C	4.8 (f)
Krasnyoctiabr OJSC	A	2.4
Kumaran Industries	F	23
L3 Communications	J	1.1
Lapp India	A	4.1

Exhibitor Name	Hall No.	Stall No.
Laversab India	H	1.8
Leach International Europe	C	4.8 (L)
Lockheed Martin	E	4.4 / Chalet 10
Lucas - TVS	F	32
Lufthansa Technik AG	A	4.8
M S Ramaiah School of Advance Studies	F	6
M.P.I Prague CZ	A1	1
MACH AERO	B	4.2 (c)
Macmet Technologies	F	16
Mahindra Engineering	I	1.11
MAINI GROUP	I	2.4 (a), OD - 3
Mak Controls & Systems	F	22
Martin Baker Aircraft	C	4.8 (h)
MATCON	H	2.4 (a)
Mayaurakshi Equipments	F	3
MBDA	C	4.5
MD Helicopters	J	2.5 (a)
MEL Systems And Services	F	9
Meltronics Systemtech	H	1.11
Meridian Inflatables	H	3.2
Merlinhawk Associates	H	2.4
Messier Services	B	4.4
Messier-Dowty	B	4.4
Metacomp Technologies	J	2.2
Metallic Bellows (India)	F	36
Metallizing Equipment	A1	15
Metris	J	1.13
Microturbo	B	4.4
MiG Russian Aircraft Corporation	A	1.2 / Chalet 20-21
MIL Moscow Helicopter Plant , JSC	A	2.2 & 2.3
Military Parade	J	1.6
Ministry of Industry and Trade of the Czech Republic	A1	1
Mishra Dhatu Nigam	E	4.3a
Moog Aircraft Group	E	3.12
Moravan - Aeroplanes a.s.	A1	1
Motor Sich	B	3.9 (c)
MOTOROSTROITEL JSC	A	2.5
MST Matzen Schlauch-Technik	A	4.7 (a)
Natchu Security Systems	H	1.9
Natesans Antiqarts	H	3.13
National Aerospace Lab	H	2.5
NEXTER (Giat Industries)	B	4.1(c)
Nivisys Industries LLC	J	2.2
Noble Enterprises	A1	9

Exhibitor Name	Hall No.	Stall No.
Northrop Grumman	E	3.7
NOVINTEC SA	B	4.3
Ocean Air INC	J	2.2
Omniscient Electronics	A1	13 (b)
ONERA	B	4.2 (e)
Onward Technologies	B	1.5
Open Engineering	I	2.1 (h)
ORBIT Technology Group	A	4.2 (a)
Ordnance Factory Board	G	2.1
Orient Flight School	H	1.4
Overhaul & Maintenance	E	5.1
Park Controls and Communications	H	2.1
PAULSTRA	B	4.3
Pawan Hans Helicopters	D	1.15
PBS Velka Bites, a.s.	A1	1
PCI	G	1.4
Perm Motors Group	A	2.5
PGA AVIONICS	B	4.3
Phozotron-NIIR Corporation JSC	A	1.2
Plexion Technologies	I	1.11
Polish Chamber of National Defence Manufacturers	A	5.1
PowerJet	B	4.4
PPG Aerospace	C	4.8 (a)
Pratt & Whitney	E	3.8 / Chalet 33
Prime Aerospace Singapore & UAE	B	1.6
Processware Systems	B	3.2
Prodera	B	2.12
Pulse e Technologies	D	1.14
Qineti Q	C	4.8 (e)
Queensland Goverment	C	5.1(b)
Quest	C	2.1
Rada Electronic Industries	A	5.4
Radmor S.a.	A	5.1
RAFAEL	A	4.5
Rafale International	B	4.1
Rafi GB	C	4.8 (f)
Ramenskoye Design	A	2.2 & 2.3
Raytheon Company	E	3.9
RDI Communications	C	3.10 (a)
Realisim Technologies	I	2.5
RealTime TechSolutions	I	1.8
Revue Thommen AG	C	1.8
RFD Beaufort	C	4.12
RMIT University	C	5.1
Rohde & Schwarz	E	5.8
Rolls Royce Plc	C	5.3 - 5.4 Chalet 15

Exhibitor Name	Hall No.	Stall No.
Rosler Oberflächentechnik	A	4.14
Rosoboronexport State Corpn	A	2.2 & 2.3 Chalet 17
Rostvertol PLC	A	2.2 & 2.3
RSL Electronics	A	5.1
Ruag Aerospace Service	A	4.6 (b - 5)
Russian Aviation	A	2.2 & 2.3
S. M. Creative Electronics	E	1.5
SAAB AB	Outdoor	10
SAARC Tool Tech	D	1.16
Sabena Flight Academy N.V.	A	5.11
SAFRAN	B	4.4 Chalet 24-25
SAFT	B	4.2 (f)
Sagem Défense Sécurité	B	4.4
SAMTECH	I	2.1
Samtel Color	E	1.1
Sanghvi Aerospace	F	11
Sankhya Infotech	I	1.1
Satyam Computer Services	I	2.3
SBAC	C	4.8
SCHENKER AEROPARTS	D	1.8
Scope Metal Trading	E	5.7
SE IVCHENKO-PROGRESS	B	3.9 (b)
Seabira Aviation Australia	C	5.1
SECAPEM	B	4.3
Sekai Electronics	E	1.12
Selex Communications	C	3.4
Selex Sistemi Integrati	C	3.4
SENSOREX	B	4.2 (g)
Servocontrols & Hydraulics	G	3.6
Shakti Enterprises	H	1.1
Shashi Kaizen Industries	F	27
SHOW NEWS	E	5.1
SIBAT - Israel M.O.D.	A	4.4 (a)
Siemens	C	2.3 (a)
Sigma Electro Systems	D	1.1
SIGMA MICRO SYSTEMS	D	1.12 / Chalet 23
Signature Industries/ Sarbe	E	4.5
Sikorsky Aircraft	J	2.5
Silver Software	H	3.4
Sino Swearingen	J	2.5 (a)
Sitec Aerospace	A	4.6 (b-3)
SKF Aerospace	B	4.5 (a)
SLN Technologies	A1	15 (a)
Smith Aerospace	C	4.7

Exhibitor Name	Hall No.	Stall No.
Snapon Tools	I	2.2
Snecma	B	4.4
Snecma Services	B	4.4
Society of Indian Aerospace Technologies and Industries (SIATI)	F	30
SOFEMA	B	3.12
SOFRADIR	B	3.11
Sokol Nizhny Novgorod Aircraft Building Plant JSC		
Solelectron Centum Electronics	I	3.11
Souriau India	F	15
Southern Electronics	F	14
SP Guide Publications	D	1.5 - 1.7
Special Metals Services	G	3.5
Speck Systems	A	4.7
SpetsTechnoExport	B	3.9 (a)
State Research Institute of Aviation Systems	A	2.5
Stein Seal	C	4.8 (f)
Sterling Book House	G	1.3
Strongfield Technologies	C	5.9
Sukhoi Aviation	A	2.1 & 1.3 Chalet 18 - 19
Sukhoi Civil Aircraft	A	2.1 & 1.3
Sukhoi Design Bureau	A	2.1 & 1.3
Supersonic Services, INC	J	2.2
Systems Advisers Group	D	3.3
Systems Aids	F	7
Tadiran Communications	A	4.1
Taneja Aerospace & Aviation	H	3.12
Tata Consultancy Services	E	2.4 (c)
Tata Technologies	D	3.2
TEAC Aerospace Technologies	J	3.12
Technocomplex Research and Production Center	A	2.2 & 2.3
Techspace Aero	B	4.4
TECHSPACE AERO	I	2.1 (f)
Tedopres Asia	J	3.2
Telecommunications Research Institute	A	5.1
Tellumat	C	3.10b
Tesscorn Systems	J	3.1
THALES	B	4.2
The Oriental Insurance Company	J	3.4
Titan	F	18
TITEFLEX EUROPE	B	4.2 (a)
TOCOL ENTERPRISES	F	33
Tool Tech Software	F	11
Touchwood Aviation	A1	13 (a)

Exhibitor Name	Hall No.	Stall No.
Trelleborg Sealing Solutions	C	3.8
Trident Infosol	B	2.4
Triveni Hi-Tech	F	13
Trusted Aerospace & Engg	J	2.3
TS Electronics	J	1.8
Tupolev PSC	A	2.5
Turbomeca	B	4.4
TW Metals	F	5
TWI	C	4.8 (c)
Tyco Electronics	A	5.11 (a)
U.S. Department of Commerce	J	1.11
UGS India	G	3.4
UKTI	C	4.8 (b)
Ulbrich Stainless Steels & Speciality Metal	J	2.2
Ultra Electronics Electrics	C	4.8 (i)
UMAC AVIONICS	C	2.2
Unique Instruments & Mfrs.	F	4
United States Department of Defense (US DoD)	J	2.2
Ural Optical & Mechanical Plant (UOMZ)	A	2.2 & 2.3
US Airforce	J	3.5
Valeth High Tech Composites	F	21
Valtech .	C	4.1
Varisis Advanced Engineering & Software Technologies	B	1.1-1.4
Varman Aviation	A1	1
Varman Aviation	F	34
Vayu Aerospace Review	C	1.5
Vector State Corporation	B	3.9 (d)
VECTRA AVIATION	D	2.4 (d) / Chalet 27
VECTRA IT SOLUTIONS	D	2.4 (d)
Vem Technologies	H	3.7
VSMPO-AVISMA Corpn	J	1.1 & 1.4
VXL Technologies	F	20
Wallonia Foreign Trade & Investment Agency	I	2.1 (a) & (c)
Wipro Technologies	Outdoor	5
World Aerospace Database	E	5.1
World Aerospace Sdn Bhd	E	5.10a
Ximax Automation	C	3.1
Yakovlev Design Bureau	A	1.1
Young India Films	I	1.3
ZEN TECHNOLOGIES	H	2.2
ZETATEK INDUSTRIES	B	1.8
Zone Aéronautique	B	4.4
ZVI a.s.	A1	1



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