



SHOWNEWS

PUBLISHERS OF: SP'S MILITARY YEARBOOK, SP'S AVIATION, SP'S AIRBUZ, SP'S LAND FORCES & SP'S NAVAL FORCES

» INSIDE «

Guess
who's flying
today



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12



A K ANTONY, DEFENCE MINISTER IN-AUGURATES THE SHOW. SURYA KIRANS COLOUR THE SKY IN BACKGROUND

Aero India 2009 took off on Day One with a roar of combat jets of the Indian Air

Force such as the Su30MKI, the Mirage 2000, Jaguar and the newly inducted Advanced Jet Trainer Hawk. The LCA Tejas, still under development put up an impressive display. The show was rounded off by the breath-taking manoeuvres by the Surya Kiran Aerobatic Team and the Dhruv equipped Sarang. Some of the latest fourth generation fighters from the US, Germany and Russia competing for the mega deal for 126 MMRCAs formed a part of

Aero India 2009 Takes-off

the display.

The air show was flagged off by the Defence Minister A.K. Antony in the presence of Karnataka Chief Minister B.S. Yeddyurappa and other dignitaries.

With diplomats, air chiefs and VIPs from around the world present, security was understandably tight and one could see high tech systems in use. To provide foolproof security and prevent any untoward incident, the venue has been turned into a fortress, with multi-layered screening, closed circuit television, X-ray machines and radio frequency identification. Apart from special commando forces, large number of security personnel drawn from the IAF, DSC and the Central Industrial Security Force were deployed.

As stated in different forums, nearly 600 companies including over 300 from overseas and nearly as many from the Indian subcontinent, are showcasing their products and technologies both in the military and civilian sectors. The effort is clearly directed at grabbing a share of the \$30 billion

(Rs 150000 crore) market in the wake of the re-equipment and modernisation programmes of the armed forces and good chances of the revival of the Indian aviation industry in the future.

Buoyed by the success of India's maiden lunar mission Chandrayaan-1, a space pavilion is also put up by the Indian Space Research Organisation to flag the country's prowess in space technology and space applications. •

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Day 2, Thursday, 12 February: Abhinav Bindra aboard the Super Viper



"I am looking forward to the experience. I guess it will be an encore of what I felt when I hit the target at Olympics. I thank Lockheed Martin for giving me this honour."

Abhinav Bindra, Shooter

India's ace shooter and first Olympics gold medalist, Abhinav Bindra, will fly aboard Lockheed Martin's fighter jet F-16IN at Air Force Station Yelahanka, Bangalore today. With this feat, Abhinav enters the exclusive club of personalities including Ratan Tata (who flew the F-16 in 2007) and former President Dr A.P.J. Abdul Kalam (who flew in an Indian fighter jet) who have had this privilege.

F-16IN, designated the Super Viper, comes from the leading aerospace manufacturer, Lockheed Martin Aeronautics Company, and soars above all other fighter planes across the world. It is slated to be the

world's most capable multi-role fighter with unsurpassed performance and reliability reaffirming the high quality of the aircraft.

Making the announcement, Orville Prins, Vice President, Business Development for India said, "Lockheed Martin is very pleased to have Abhinav Bindra fly in the F-16IN Super Viper. It is a perfect fit. Lockheed Martin and Abhinav share the same commitment to integrity and the F-16IN and Abhinav have achieved absolute excellence in performance." Bindra will be flown by a highly experienced test pilot with Lockheed Martin. The flight will last approximately 45 minutes. He will undergo the mandatory medical fitness test before takeoff and will also get a ground briefing before going on the sortie in the aircraft.

Speaking on the announcement, Abhinav Bindra said, "I was instantly excited when the offer to fly on F-16IN came. I have heard about the adrenalin rush when the aircraft sorties in the air and am looking forward to experience it. I guess it will be an encore of what I felt when I hit the target at Olympics. I thank Lockheed Martin for giving me this honour."

The F-16IN Super Viper shares a heritage with the world's only Fifth Generation fighters—the F-35 Lightning II Joint Strike Fighter and the F-22 Raptor. Evolutionary integration of Fifth Generation technologies makes the F-16IN the most advanced fighter in the world today. The Super Viper has the most advanced technologies and capabilities available on the international market. •

Day 2, Thursday, 12 February (Entry from 0900 hrs)

1000 – 1700 hrs	Structured Aero India 2009 B2B meeting, – DHRUV Pavilion, INAUGURAL AREA
1000 – 1700 hrs	Exhibitors' Press Conferences, Press Centre, Hall E, AFSY
1000 – 1200 hrs	Flight Display
1100 hrs	Press Conference by Chief of Air Staff
1230 hrs	Reception hosted by German Embassy & BDLI at German Pavilion, Hall C, Stand 26.1 (Entry by invitation only).
1430 – 1630 hrs	Flight Display
1500 hrs	Session on Indo German Cooperation in Defence, DHRUV Pavilion, INAUGURAL AREA
2000 hrs	Dinner hosted by Hindustan Aeronautics Ltd at Hotel Lalit Ashok (Entry by invitation only)

Day 5, Sunday, 15 February (Entry from 0900 hrs)

1000 – 1700 hrs	Structured Aero India 2009 B2B meeting – DHRUV Pavilion, INAUGURAL AREA
1000 – 1700hrs	Exhibitors' Press Conferences, Press Centre, Hall E, AFSY
1000 – 1200 hrs	Flight Display
1430 – 1630 hrs	Flight Display

Day 3, Friday, 13 February (Entry from 0900 hrs)

1000 – 1700 hrs	Structured Aero India B2B meeting – DHRUV Pavilion, INAUGURAL AREA
1000 – 1700 hrs	Exhibitors' Press Conferences, Press Centre, Hall E, AFSY
1000 – 1200 hrs	Flight Display
1430 – 1630 hrs	Flight Display

Day 4, Saturday, 14 February (Entry starts 0900 hrs)

1000 – 1700 hrs	Structured Aero India 2009 B2B meeting – DHRUV Pavilion, INAUGURAL AREA
1000 – 1700 hrs	Exhibitors' Press Conferences, Press Centre, Hall E, AFSY
1000 – 1200	Flight Display
1430 – 1630 hrs	Flight Display

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'Virtual' Fence On India's Coastline

Controp Precision Technologies has evolved advanced security systems for homeland security. These systems, which provide a 'virtual' fence over the water, automatically detect intruders including small boats and swimmers from the sea. Recognition, identification and tracking of intruders are the key to protection and direction of the security forces to the exact location. Controp systems also provide surveillance and observation at airports for flight safety, ground taxi control and air control, even in the darkness. •

Honeywell to Make Hercules Safer For India

US automation giant, Honeywell announced its plans to produce the military version of its Traffic Collision Alerting System and other key safety and mechanical systems for the IAF, which has ordered six C-130J. Honeywell Vice President, Military Aircraft, Vicki Panhuise said, "Honeywell expects to deliver key aircraft systems that enhance flight safety including our Military Aircraft Collision Avoidance System." The Company anticipates delivering \$10 million (Rs 49 crore) in aircraft equipment. Apart from offering a complete product portfolio of aircraft systems that help ensure mission readiness and aircraft safety, Honeywell has several partnerships in India including the licensed manufacture of the TPE331 engine by Hindustan Aeronautics Limited. On the same note, Boeing has signed an MOU with the Navratna defence PSU Bharat Electronics Limited to jointly develop an analysis and experimentation centre in India to offer customers the ability to make better informed decisions in modernising India's defence forces. •

America's Best on Display

Top US defence companies including Honeywell, ITT, Lockheed Martin, Raytheon, Northrop Grumman, Bae Systems, Bell Helicopter, Rockwell Collins to name a few have come together for Aero India 2009 under the banner of US-India Business Council (USIBC), which seeks to enhance cooperation between the two countries especially in the aftermath of the Mumbai terror attacks. •

Congrats Dinesh

The Boeing Company announced the appointment of Dr. Dinesh A Keskar as the Vice-President of Boeing International and President of Boeing India. The appointment will be effective from March 01, 2009 and Dr. Keskar will be responsible for leading the efforts in expanding the company's local presence as well as pursuing new initiatives in India. •

Lockheed Martin speaks about its refueller

The C130 Hercules has a refueller variant with the unique ability to refuel fighters as well as helicopters in flight. This special capability is managed by a very large boom which can be extended and lowered in order to connect to the helicopter without the interference of the rotor. The KC130 - the refueller variant - has the ability to refuel Army vehicles even under special circumstances where there is a disruption in the logistics chain. •

Powering India's Defence Forces: Adour Engines

Presenting a powerful array of new engine technologies at Aero India 2009, Rolls Royce exhibited its Adour Mk871 engine which incorporates some of the latest civil and military engine technologies to power the IAF's new fleet of Hawk Advanced Jet Trainer (AJT). The reheated version of the Adour engine has already been well established with the Jaguar strike aircraft of the IAF. On the same note, Boeing has signed an MOU with the Navratna defence PSU Bharat Electronics Limited to jointly develop an analysis and experimentation centre in India to offer customers the ability to make better informed decisions in modernising India's defence forces.

The Adour Mk871 offers a high degree of commonality with the Mk821 variant of the Adour, which is being offered to enhance the performance and durability of the IAF's Jaguar fleet.

Rolls Royce is also supporting the EUROJET consortium, which supplies the EJ200 engine for the Eurofighter Typhoon. The Typhoon is a strong contender for the Indian Government's requirement of a Medium Multi-Role Combat Aircraft. Martin Fausset, Managing Director of Rolls Royce Defence Aerospace said, "India is an important and growing market for Rolls Royce, where we have a deep understanding of customer requirements developed through 77 years of partnerships with the Indian aerospace industry." •

Boeing to Invest Billions in India

Boeing has committed to investing \$100 million (Rs 490 crore) for a Maintenance, Repair and Overhaul (MRO) facility planned for the centrally located city of Nagpur as well as \$75 million (Rs 368 crore) for a flight crew training centre and \$10 million (Rs 49 crore) for ab-initio pilot training. The MRO will be overseen by Boeing's Commercial Aviation Services division. Boeing Altheon will manage the pilot training centre as well as provide simulators for new Boeing aircraft to meet the ever increasing demand for qualified pilots. In addition to these, Boeing has also committed to investing \$1.7 billion (Rs 8,330 crore) in India through offset agreements.

On the same note, Boeing has signed an MOU with the Navratna defence PSU Bharat Electronics Limited to jointly develop an analysis and experimentation centre in India to offer customers the ability to make better informed decisions in modernising India's defence forces. •

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SARANGS (AEROBATIC TEAM OF ALH) SOARING HIGH



AKASH GANGA COLOURS THE SKY



C-17 MAMMOTH IN FLIGHT



FORMAL INAUGURATION OF THE SHOW (KARNATAKA CM ON LEFT)



MIG-35 IN FLIGHT



SP'S SHOWNEWS IN THE HANDS OF AN IA



EUROFIGHTER AWAITS TURN TO FLY



RATAN TATA WITH PALLAM RAJU, RRM



LINEUP OF VARIOUS AIRCRAFT AT THE SHOW



MIG-35 PUSHING ITS CASE



F AIRMAN



F-16 ROARS AT THE SHOW

AERO INDIA '09

YET ANOTHER EDITION OF SPECTACULAR DISPLAYS



VIPS WHISPER (PRADEEP KUMAR, SECY DEFENCE PRODUCTION, A K ANTONY, DEFENCE MINISTER WITH IAF CHIEF ACM MAJOR



FIGHTERS AWAIT THEIR TURN OF COOPERATION WITH IAF



Embraer Sells 204 jets in 2008; Sets New Record

SERGIO BELLATO (LEFT) AND JOSE EDUARDO GANDARO OF EMBRAER POSE WITH SMILE FOR BUSINESS PROSPECTS. JOSE PRESENTED AN EXTENSIVE PRESENTATION ON EMBRAER'S PERSPECTIVES AND PLANS ON THE FRONT OF EXECUTIVE JETS, THE SALES OF WHICH ALSO INCLUDES CLOSE TO 20 PHENOMS AND 2 LINEAGES IN INDIA ITSELF.

Brazilian aircraft manufacturer Embraer delivered a total of 204 jets to Commercial and Executive Aviation as well as Defence and Government segments.

Closer home, the Company has promoted its full portfolio for the Defence and Government segment at the Aero India 2009. "Due to its growth in recent years, the Indian market is very special to Embraer," says Sergio Bellato Alves, Vice President – Marketing & Sales, Asia – Defence and Government Market. "Our Asia Pacific efforts have found this strong emerging market to have a particularly significant synergy with Embraer's quality products." In July 2008, Embraer had signed a comprehensive deal with the Indian Government for

three EMB 145 Airborne Early & Control (AEW&C) jets, which includes training, technical support, spare parts and ground support equipment.

Embraer C-390 vs Indo-Russian MRTA Project

At Aero-India 2009, Embraer representatives disclosed that they were on the verge of finalising the deal with the Brazilian Air Force for the development of the C-390 transport aircraft in the 19 tonne class. The aircraft will be a multi-role one with refuelling being one of its features. Once finalised, Embraer would definitely welcome India as a partner in the event of the Indo-Russian deal falling through. •



VIP - Interaction & VIP Visits

JAYANT BARANWAL OF SP GUIDE PUBLICATIONS HAD A BRIEF INTERACTION WITH DEFENCE MINISTER (ABOVE). IAF CHIEF AIR CHIEF MARSHAL F H MAJOR AND PALLAM RAJU, MINISTER OF STATE FOR DEFENCE LOOK ON. ADMIRAL SUREESH MEHTA, INDIAN NAVY CHIEF TAKES A LOOK AT SP'S DISPLAYS IN HALL C AT BOOTH 14.

Further on.



AW139 Coast Guard



AW139 SAR

AW109 POWER Police



AW109 POWER EMS



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FINMECCANICA

Rafael showcases its expertise

Smart, Precise Impact and Cost Effective (SPICE) Guidance Kit

As part of the Aero India 2009, Rafael Advanced Defense Systems Limited has put up the SPICE, the stand-off, autonomous, air-to-ground weapon systems. SPICE is a guidance kit which can be mounted on general purpose and penetration warheads. The weapon uses state-of-the-art navigation, guidance and homing techniques to achieve accurate and effective destruction of targets. SPICE has day, night and adverse weather capabilities based on dual CCD/IIR seeker and advanced scene matching algorithms. •

SPIKE-ER

SPIKE-ER from Rafael Advanced Defense Systems Limited of Israel is a fourth generation multi-purpose missiles for helicopters. It is a weapon system that is designed for mounting on various platforms including helicopters, fast vessels and combat vehicles. The SPIKE-ER can also be dismounted to a ground position and fitted onto a tripod. Apart from the fire and forget basic mode of operation, the SPIKE-ER is equipped with a fibre-optic bi-directional data link that allows the gunner to watch the video taken by the missile seeker in-flight. •

Italian group Finmeccanica showcases a host of activities and expertise with exhibits on the part of its various subsidiaries. The group is promoting its C-27J military transport aircraft. Seen here is the impressive view of the propeller engine of C-27J.



Further on.


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FINMECCANICA



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JOHN BROOKS, PRESIDENT

Northrop Grumman: Homeland defence

Ready to support India's homeland defence needs with industry-leading capabilities, Northrop Grumman continues to lead the defence industry in surveillance and fighter sensor technology. Whether maintaining border and maritime security, or providing the finest systems in fighter situational awareness and survivability, successful government agencies and military forces of the millennium will focus on how technology meets mission requirements.

"Northrop Grumman will focus on supporting homeland defence modernization. With a wide range of capabilities available in this area we are ready to support India's immediate needs. Our relationship with India goes back more than 25-years when we first provided target drones (KD2R5) for the Indian Army, Air Force and Navy. Northrop Grumman also competed for the IAF's advanced jet trainer (TF-5), and we have installed numerous air traffic control communications systems and radars. The company continues to provide unmanned ground vehicles for the Indian Army and marine navigation systems for the Navy" said John Brooks, President, Northrop Grumman International Inc.

"But our eye is also on the future. We believe that strategic partnerships are the way to provide the best solutions to our customers and we have demonstrated that by creating partnerships with Satyam, Hindustan Aeronautics, Bharat Electronics, and Dynamatic Technologies," he added.

"Last year we opened new offices in New Delhi to meet India's growing demand for homeland defence upgrades, aerospace and commercial capabilities and technologies. Northrop Grumman is competing for MMRCA as a major partner with Boeing on the F/A-18 E/F and with Lockheed Martin on F-16IN Super Viper.

We bring significant, relevant capabilities for homeland defence modernization and command & control, intelligence, surveillance and reconnais-

sance (C2ISR) for the Integrated Defence Staff by designing and developing advanced defence electronic systems, and Military and Civilian air traffic control." The company offers a broad range of products and technologies to meet India's homeland defence needs. These include the E-2D Advanced Hawkeye surveillance aircraft, the MQ-8B Fire Scout vertical takeoff unmanned vehicle and the Joint Multi-Mission Expeditionary Craft (JMEC). •

Partners with India for F-16 radar elements

Northrop Grumman Corporation has selected Bangalore-based Bharat Electronics Limited and Dynamatic Technologies Limited to manufacture components of the F-16 APG-68(V)9 fire control radar as part of a broader initiative to engage Indian industry as strategic business partners. "Following an extensive evaluation of the Indian defence electronic manufacturing base, we feel that these two companies are best positioned to offer the depth of capability required to meet our customers' demanding cost, schedule, and quality standards," said Katie Gray, Vice President of Northrop Grumman's Global Sensor Solutions business unit.

As part of a comprehensive co-production programme, Northrop Grumman engineers will work side-by-side with engineering teams from Bharat Electronics Limited and Dynamatic Technologies Limited to provide training and support to ensure a smooth transition to production. The engineering teams will collaborate on all aspects of the manufacturing process, beginning with a formal Production Readiness Review (PRR), and concluding with First Article Inspection (FAI) and First Article Test (FAT) milestones. Initial radar component deliveries are expected in the second quarter of 2009. •

'Eurocopter committed to India's air fleet modernization'



NORBERT DUCROT, SENIOR VP, SALES & MARKETING, ASIA

Eurocopter is showing a strong presence at Aero India 2009 and will demonstrate that it is ready to offer what India needs for its helicopter requirements thanks to its wide range of products.

Norbert Ducrot, Eurocopter Senior Vice President Sales & Marketing Asia points out: "As the Indian defence industry embarks on an intensive modernization campaign, Eurocopter is ready to provide perfect solutions for all requirements. By participating in the key RFPs with the best of our products, we hope to continue to support India in developing a strengthened aerospace industry."

Indeed, Eurocopter has a long tradition of cooperation with India. Eurocopter's has had a partnership with India's leading local industrial company Hindustan Aeronautics Limited (HAL) since 1962. Starting with enabling HAL to manufacture more than 600 helicopters of the Alouette 3 and Lama type (Cheetah/ Chetak), the relationship strengthened further with Eurocopter outsourcing exhaustive Ecureuil work packages to HAL for the global market. Today, HAL is part of Eurocopter's global supply chain by producing Ecureuil/Fennec airframes.

It will be showcasing models of its military range which are proposed to the Indian armed forces like Fennec, Tiger and EC725. •

EADS

Products & Partnerships

UAVs

MAS successfully demonstrated its light tactical UAV system **Tracker** to the Indian Army. This mini UAV is dedicated to surveillance and intelligence. It gathers, in day/night conditions, close range high resolution image with secured real-time processing. In production for the French Army, Tracker is easy to operate and can be deployed and hand-launched in minutes.

DCS

DCS acted as the design and integration authority to the Indian Army for its test bed system called Parikshak. This system is being used to help the Indian Army investigate the capabilities that could be delivered for the new **Tactical Communications System (TCS)** project. On the 16 February 2008, DS and TATA announced the formation of a new partnership to bid for the TCS project.



Defence Electronics

As the Electronics House of EADS Defence & Security, this Business Unit offers mission-critical key electronics to India. DE is engaged in several partnerships with the Indian industry and R&D organizations like the Defence Research and Development Organisation (DRDO). One example is the cooperation with DRDO and DARE to develop a **Missile Approach Warning System (MAWS)** for all Indian platforms. Its unique technology for **Towed Radar Decoys** has also been offered. The Business Unit has suggested to DRDO and CABS to become an exclusive partner for their **Airborne Early Warning & Communications (AEW&C) system**. •

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BEL spotlight on NCW

Premier Defence PSU Bharat Electronics Limited (BEL) will display its Network Centric Warfare (NCW) capabilities and solutions at Aero India 2009. These customer-specific solutions, designed and developed in close association with BEL's customers, cover the requirements of the Army, Navy and Air Force.

Command And Control System solutions for the Army include the Artillery Command, Control and Communications System (ACCS), Battlefield Management System (BMS) and Tactical Communication System (TCS). These, along with the other Army products like Battle Field Surveillance Radar, Communication equipment for various applications and the Air Defence System, AKASH, will be on display.

For the Navy, BEL has developed the Combat Management System (CMS) and the ATM-based Shipboard Data Network (AISDN). These and the other Naval products like Composite Communication System (CCS) and Target Designator will be displayed.

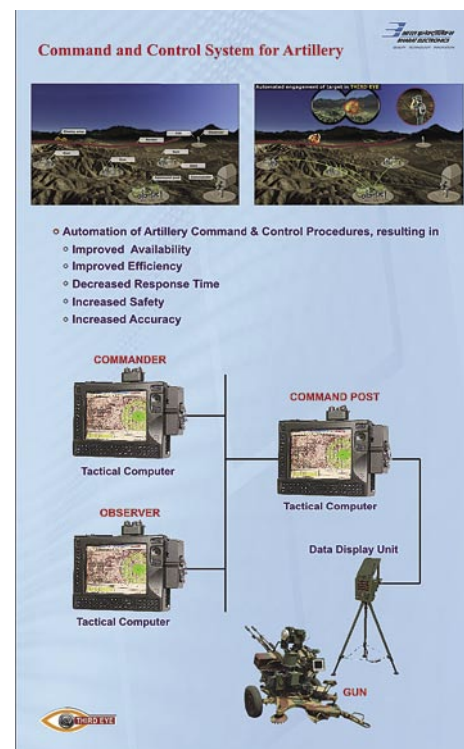
The Integrated Air Command and Control System (IACCS) is the major display for the Air Force. Various Airborne products like Radar Warning Receivers, Radar Finger Printing System and Data Link will also be showcased during the show. BEL's presence at Aero India 2009 will also include the com-

plete range of Opto Electronic products, Contract Manufacturing capabilities and RF ID solutions.

All major sub-systems of AKASH, the guided missile air defence weapon system will be displayed at the outdoor section. The Tactical Communication System and networked Battle Field Surveillance Radars will also be displayed in the outdoor area.

BEL is constantly innovating to manufacture state-of-the-art professional electronic equipment and components for the international as well as domestic markets. BEL manufactures a wide range of Military Communication Systems, Radars and Sonars, Naval Systems, Telecom & Broadcast Systems, Electronic Warfare Systems, Tank Electronics, Opto Electronics, Professional Electronic Components and Solar Powered Systems.

At Aero India 2009, BEL will display selected products and equipment from its wide range which have very good export potential. They include Communication equipment, Command and Control Systems, Radars and Sonars, Opto Electronics and Thermal Imaging products, Electronic Warfare Systems, Tank Electronics, Simulators and Avionic Systems. •



The range from Rafael

Litening III: An innovative airborne infra-red targeting & navigation pod for fighter aircraft, its combination of multiple sensor array enables high confidence target selection, identification, precise strike and damage assessment.

Spike Family: The Spike Family—comprising Spike-MR, Spike-MR Spike-LR and Spike-ER missiles—consists of missiles suited for several platforms, multiple ranges and a variety of targets. The missiles have sophisticated electro-optic CCD or IR sensors for operation day and night and in adverse weather conditions.

C4I Connect: The C4I Connect solution, is a converged military IP network that provides the ground Command & Control center with a complete, advanced solution for all C4I applications, including voice (telephony & intercom), video (VoD, conferences), data and radio.

Global Link: The Global Link System enables networking of all airborne, sensors and ground platforms and provides total visibility and connectivity. It is based on two types of Rafael radio systems: Data Link Radio (DLR) and Voice & Data Link Radio (VDLR).

Jam-Air: An advanced jamming system, it uses a fast high power-jamming turret integrated onto a very sensitive missile warning system. The system withstands the extreme environmental conditions of the platform and performs at least a thousand jamming cycles without any service.

Sky-Shield: The system is designed to provide a safe corridor of protection against radar threats for increased survivability of the attacking force in a hostile environment. The Sky Shield mission is to Suppress Enemy Air Defense (SEAD), enabling deep penetration into the enemy area.

SkyLite B: The SkyLite B is a man-portable, long endurance mini-UAV system designed to meet the ISR needs of all military branches, including infantry units.

Rocket Propulsion and Micro-Satellites: Rafael's space capabilities include propulsion modules for satellite applications and related hydrazine propulsion components (tanks, thrusters, valves) as well as micro-satellite air launch and satellite laser communication capabilities. •

AW139 enters India

Last December, an AgustaWestland AW139 entered service with Heligo Charters Pvt Ltd, the Mumbai-based offshore helicopter operator, marking entry into the Indian offshore helicopter market. A second aircraft will join the fleet soon and additional AW139s are expected to enter service later in 2009.



The AW139, since deliveries started in 2004, has rapidly become the market leading helicopter in its class due to its high speed, excellent performance, large cabin and attractive economics. Over a third of the 430 aircraft sold so far have been ordered by offshore operators around the world. The AW139 meets or exceeds all the latest certification and safety standards and has unmatched single engine performance due to it being a completely new design, the first all new helicopter in its class to be designed since the 1970s.

The AW139 is ideally suited for the offshore role, with its large cabin and baggage compartments allowing it to transport 12 to 15 passengers, offering ease of access and egress due to its large sliding doors. Remarkable space on board and modular role equipment allow easy and quick conversions to other configurations. Furthermore, a Maximum Gross Weight (MGW) of 6,800 kg, a 400 kg increase on the original certified MGW of 6,400 kg, was certified in 2008. The increased MGW and payload, which is available on all new production aircraft as an option, is allowing the AW139 to target various long range offshore requirements currently being met by larger 19-seat types. •

BEL Empowers the Army.



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- Shakti (Artillery Command & Control System)
- BSS (Battlefield Surveillance System) • BMS (Battlefield Management System)

BEL also provides C4I solutions for the Navy and Air Force.



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'Raytheon adept at working ToT arrangements'

ADMIRAL (RETD) WALTER F. DORAN,
PRESIDENT, RAYTHEON ASIA

SP's Guide Publications (SP's): What are the defence technologies and products Raytheon deals with?

Admiral (Retd) Walter F. Doran (Doran): Raytheon is a global defence technology company that does business in about 80 countries. Some of Raytheon's major areas of focus include precision engagement, radar and sensors, integration of sophisticated systems and training.

SP's: What are Raytheon's land-based air defence systems being offered to India?

Doran: Raytheon is the US prime contractor for the Patriot, Hawk XXI and SL-AMRAAM. We have offered the Hawk XXI system to the Indian Army and the US government has had discussions with the Indian government on the Patriot and SL-AMRAAM.

SP's: Will you also provide sensors, battle management systems and systems integration for the air defence systems?

Doran: Patriot, Hawk, and SL-AMRAAM are designed as weapon systems that include air defence sensors, battle management and system integration as fundamental elements. Raytheon is the world leader in air defence systems integration and we are under contract to the US government to develop integrated air and missile defence capability for the US Army.

SP's: What about fighter aircraft systems for air dominance?

Doran: Most of the weapons packages for US fighter aircraft are produced by Raytheon Missile Systems. Products include AIM-9X, AM-RAAM, Maverick, Paveway, JSOW. These are the world's most advanced and most lethal air-to-air and air-to-ground weapon systems. Raytheon Space and Airborne Systems produces radar systems and electronic warfare systems that combined with our weapons all but guarantee air dominance for the US and its allies.

SP's: What are the systems you provide for civil airports for air traffic control and are any such systems installed in India?

Doran: Raytheon is one of the world's largest providers of air-traffic control systems, including in Mumbai and Delhi. The company also has submitted bids on providing air traffic management systems in Kolkata and Chennai, so this business continues to grow.

SP's: Do you provide systems for integrated airport security?

Doran: The Integrated Security Systems for Airports (ISSA) is a comprehensive system that takes information from an array of different sources—cameras, radars and sensors—and presents it to the users in a way that helps them identify the greatest risks to the airport and act on them decisively. ISSA creates a safety zone around commercial airports.

SP's: What is the assurance level of product support by Raytheon during the life cycle of a system?

Doran: Raytheon has a strong record of providing lifetime support for our products, as well as extensive training for those using the equipment.

SP's: What does your company view Transfer of Technology? What are your plans to provide offsets?

Doran: We do business in some 80 countries and each has requirements for technology transfer and offsets, in some form or another. We are quite adept at working technology arrangements and the US has historically been supportive of sharing technology with its allies. •

Dassault does EASy



EASy Phase II

We launched the 'EASy Phase II' program last October. It features a host of enhancements to our award-winning flight deck that will include synthetic vision technology. The synthetic vision system is being developed in conjunction with Honeywell Aerospace and will be offered as

an option in new aircraft and as a retrofit in all EASy (Enhanced Avionics System) models. Options included will be ADS-B Out which provides updates and information to aircraft and controllers allowing more efficient use of airspace, reduced minimums and enhanced safety. It will also include support for RNP SAAR 0.1 which requires aircraft position accuracy to 0.1 nautical miles during RNAV approaches. EASy Phase II will be certified in the last quarter of 2009 on the Falcon 900EX EASy and Falcon 900DX. It is scheduled to be available for the Falcon 7X, Falcon 2000LX and Falcon 2000DX in mid-2010.

Customer Service

In terms of customer service our last achievements are remarkable. We've set new standards in terms of spare parts delivery with an outstanding 99.8% service level. Among the most significant improvements was the Added Value and Pricing Guarantee program which has reduced the price on more than 12,000 Falcon parts and the creation of an industry leading two year/30 month warranty. •

Rolls-Royce Combines Partnerships & New Technologies To Power India's Defence Forces

Rolls-Royce is presenting a powerful array of new engine technologies at Aero India 2009 (11 – 15 February). The Group (Hall B, Stand 15/16) is exhibiting the Adour Mk871 engine which incorporates some of the latest civil and military engine technologies to power the Indian Air Force's (IAF) new fleet of Hawk Advanced Jet Trainer (AJT) aircraft. The reheated version of Adour engine is already well established with the IAF, powering the Jaguar strike aircraft. The Adour Mk871 also offers a high degree of commonality with the Mk821 variant of the Adour which is being offered to enhance the performance and durability of the IAF's Jaguar fleet. The Mk821 engine builds on the proven technology of the Adour family, which has over 7.5 million flying hours, and offers a low risk route to the twin benefits of greater thrust and lower life cycle costs.

Rolls-Royce is also featuring the market-leading RTM322 helicopter engine which has been selected to power over 85 per cent of NH90 customers and approximately 60 per cent of the EH101 helicopter operators. There are strong opportunities for the RTM322 in the Indian market for maritime surveillance and military tactical transport requirements. Both the RTM322 and the Adour engines are designed and produced by the Rolls-Royce Turbomeca joint venture. In addition, Rolls-Royce is also supporting the EUROJET consortium which supplies the EJ200 engine for the Eurofighter Typhoon.

Future opportunities exist in the air-to-air refuelling sector for which the Trent 700 powered Airbus A330 is ideally suited. This aircraft and engine combination was selected by the UK as its Future Strategic Transport Aircraft in 2008. The Trent 700 engine is the most popular engine on the Airbus A330, which entered service in 1995. Its market share today stands at 53 per cent of firm and option orders, including 70 per cent of orders placed in the last five years. Martin Fausset, Managing Director of Rolls-Royce Defence Aerospace said: "India is an important and growing market for Rolls-Royce where we have a deep understanding of customer requirements developed through 77 years of partnership with the Indian aerospace industry. Our broad product range means that we are also well placed to offer integrated power solutions for aircraft right across the defence market - we can provide power wherever and whenever it's required." •



**RICHARD KIRKLAND, PRESIDENT,
ASIA, LOCKHEED MARTIN**

'Lifetime support for P-3 operators'

SP's Guide Publications (SP's): Could you throw some light on your responsibilities/activities as President, Asia, Lockheed Martin?

Richard Kirkland (Kirkland): Lockheed Martin conducts international business in regions around the world. The South Asia region covers India, through ASEAN and to Australia and New Zealand. In this role, I support all of the Lockheed Martin business units as they seek to meet the requirement

of military and civil government customers. Understanding the development of requirements, the process of procurement and the decision processes are key requirements of this position. This is also done in close coordination with the Lockheed Martin office in Crystal City as the relationship between the US Government and the governments in the region is a key factor in the success of meeting our customer requirements.

SP's: How do you look at India's strategic role in the Asian/IOR (Indian Ocean Region)? Where does the emerging strategic partnership with USA fit into this scenario?

Kirkland: In all discussions with India's strategic think-tanks, members of the services and the government, it is clear that India plays a leading role

in the stability and safety of the Indian Ocean and the critical lines of commerce, energy supply and communications among the nations of the region and those of the Asian-Pacific region. The relationship between all governments in this strategic region is critical to the success of this mission and the relationship between the US and India has multiple facets that all appear to strengthen the long-term partnership between the two countries.

SP's: How do you assess Lockheed Martin's chances of clinching India's MMRCA deal?

Kirkland: Lockheed Martin is very proud of its long history in Maritime Surveillance with P-2, P-3 and S-3 programs for the US Navy and over 19 international partners in this important mission. Our commitment to our international partners in the P-3 community is to provide support for as long as any operator flies this aircraft.

SP's: Being a naval aviator and a flag-rank US Navy officer how do you think India should develop/acquire its maritime air capabilities to meet the challenges of the future?

Kirkland: I believe the Indian Navy has made a decision to take a leading role in long range maritime surveillance well into the future. As an "old aviator" I would hesitate to give advice beyond the need to take care of the people who will operate these aircraft and the systems....for it is the people who make technology work for the security requirements of a nation. •

Elettronica, EW champion from Italy

Elettronica, founded in 1951, is Europe's leading manufacturer of Electronic Defence equipment. It is also, for the second year, the fourth in the world, according to the top magazine of the EW community, the *Journal of Electronic Defence*. The company designs, produces and fields a range of products that covers all aspects of Electronic Warfare: naval, land and air environments; ESM, ECM, ELINT, RWR, SOJ class of equipments; passive and active functions. The company "mission" is concentrated on EW, with no other diversion. The paramount assumption of Elettronica's professional thinking is that the mastership of the modern battlefield becomes the sole asset of the first fighter who achieves control of the electronic battlefield, as soon as he manages to do so. As President and CEO Enzo Benigni, has stated: "Due to the fact that EW must always anticipate and defeat the technological competition of its threats, newest and traditional requirements represent the driving force towards a continuous and complete innovation, which is always the 'raison d'être' of EW. In our field, excellence is an absolute must, not a 'nice to have' to be traded off with other performances and budgets. If you are No. One you survive and win. Otherwise you are a loser, in battle and in business."

With this mandatory thrust to excellence fixed in its DNA, Elettronica product line covers all kinds of electronic warfare products—from single standalone equipment to complete integrated systems. These equipments are among the most advanced worldwide, capitalising on the adoption of the most up-to-date technology in this area: solid-state transmitters and digital memory & receivers. More than simple technology supremacy, Elettronica has the complete mastership and control of techniques and tools to compile and validate the threat libraries associated with the EW equipment. Not all the other EW companies are allowed by their government to perform in the same way. Sealed "Black boxes" are the rule more than the exception.

Elettronica equips all kinds of military (and paramilitary, Coast Guard—Law



Enforcement type) platforms, large and small. In the naval field, from aircraft carriers (Garibaldi and Conte di Cavour, IT Navy, Principe de Asturias, Spanish Armada), to destroyers, frigates, corvettes, fast patrol boats, submarines, auxiliaries and amphibians. In the air, many different types of combat aircraft, AWACS, transport, MPA, tanker, helos (combat, naval, general purpose). For land applications, we deal mainly with ELINT stations, both fixed and mobile. More than 2,500 EW suites have been produced for the armed forces of 28 nations in five continents in its half-century (and more) of activity.

The company is the Italian national champion in EW, and roughly all the Italian military assets are equipped with our systems (if they have one or more on board). However, most of our activity is devoted to the export market, about 80 per cent of the total, both as a supplier to governments and large Prime Contractors, and as a partner in international programs (NATO, UE, bi-multilateral). Elettronica has a proven record of successful international collaborations with platform manufacturers as well as with other electronic industries on a world-wide basis. Main examples of such collaborations are Eurofighter-Typhoon, for the air forces of Germany, Italy, Spain, UK, recently announced Saudi Arabia; NH90 for the defense services of France, Germany, Italy and Netherlands, plus many other foreign customers (DETE 90), Horizon destroyers and FREMM frigates for the navies of France and Italy (SIGEN), Baynunah corvettes for the UAE Navy (SEAL), Tornado IDS and ECR(IT, UK, GE), EH101(IT,UK), AMX (IT,BR), MIRAGE2000 (UAE), etc.

More recently, we have teamed up in joint ventures with international industrial partners to develop new products and technologies, for both national armed forces and export. These enterprises have been established especially in India, US, UAE. For example, apart from technical cooperation with Bangalore-based DARE, other recent collaboration initiatives have been launched with Alpha Design Technologies, also of Bangalore and, in the Persian Gulf, with Abu Dhabi based Baynunah Aviation Technology (BAT). In another recent move, the Russian Aircraft Corporation – MiG – has announced that the Elettronica's ultra-high performance ELT/568(V)2 self-protection jammer will equip the new MiG-35 on offer to the Indian Air Force as part of that country's MMRCA (Medium Multi-Role Combat) bid. Another collaboration has been established with ELOP Electro-Optics Industries Ltd., for joint development of advanced DIRCM (Directional Infra-Red Countermeasures) technologies intended to protect helicopters and wide-bodied aircraft, both military and civilian, from attacks by shoulder-mounted heat-seeking missiles. •

Timeout OUTSIDE AERO INDIA '09

Eating Point

Sightseeing

Business

Searching...



Eat Out

Oye Shaava

20, Church Street. Tel: 4112 2866
Punjabi style restaurant

Bombay Post

Carlton Towers 1, Old Airport Road.
Tel: 4111 3939
Famous for ambience, non-vegetarian dishes.

Annachi

54, 3rd Main Road, 100 Ft Road Indiranagar
Tel: 4126 1181.
Chettinad cuisines from Tamil Nadu.

Nagarjuna Group of Restaurants

44/1, Residency Road. Tel: 2559 2233
Popular Andhra Nagarjuna Residency, Nagarjuna Savoy and Nagarjuna Nakshatra.

Bangalore Bistro

74, III Floor, Sumeru Towers, Brigade Road.
Tel: 2559 4666

Shop

The Forum: Koramangala. Tel: 2206 7803

Lido Mall: Trinity Circle, Ulsoor. Tel: 4147 2625

Garuda Mall: 15, Commisionarate Junction, Magrath Road. Tel: 4112 4863

Prestige Eva Mall: Off Brigade Road.

Sigma Mall: Cunningham Road.
Tel: 4147 5913

Safina Plaza: 85 Infantry Road.
Tel: 2558 1991



Tour

The Bangalore Palace & Fort: The Bangalore Fort was built by Kempe Gowda and expanded by Tippu Sultan. Within its walls is the well preserved 16th century Ganapathi Temple.

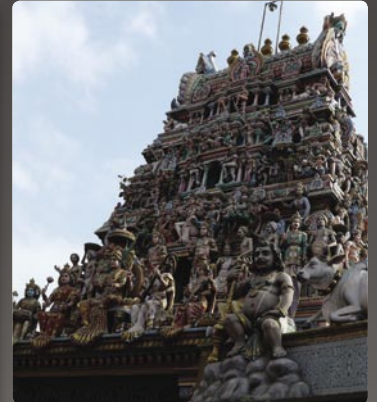
Lal Bagh: Hyder Ali laid out this famous botanical garden and his son added horticultural wealth to them with imported trees and plants. The garden today houses over 1,000 species of flora which include rare and enchanting collection of tropical plants, trees and herbs. The Glass House, modelled along London's Crystal Palace, is the centre of attraction in this 2,400 acre park.

ISKCON: Situated on Chord Road, it is a must visit temple in Bangalore. It stands over a small hill and is a very clean and well maintained temple.

St. Mary's Church: Established by a French missionary Abbe Dubois in 1811, St. Mary's is the only church in Karnataka to be elevated to the status of a minor Basilica.

Tipu's Palace: Built in 1791, this beautiful two-storeyed ornate wooden structure with exquisitely carved pillars, arches and balconies was one of Tipu's favourite summer retreats.

Nandi Hills One of the popular retreats of Tipu Sultan, the Tiger of Mysore, Nandi Hills offers breathtaking getaway of the weary tourist. Tipu's Drop, a 600 m high cliff face provides a magnificent panoramic view of the beautiful terrain. Nandi Hills is 60 Kms north of Bangalore.



**SP's at
Aero India
2009**

**SP's
MILITARY
YEARBOOK**
SINCE 1965

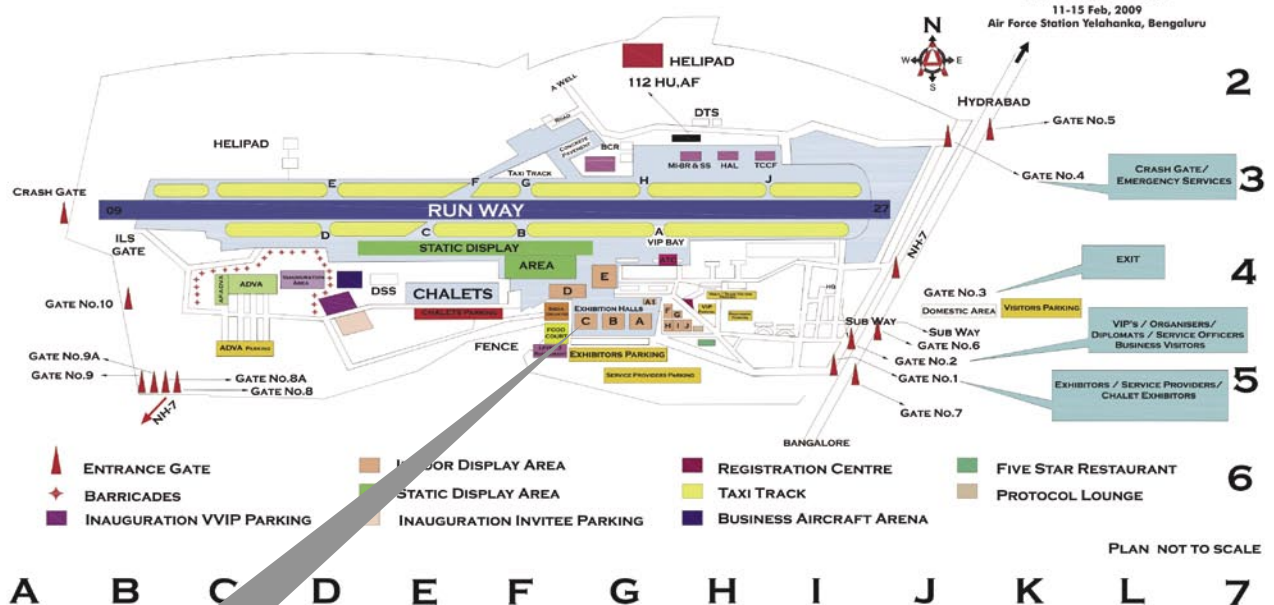
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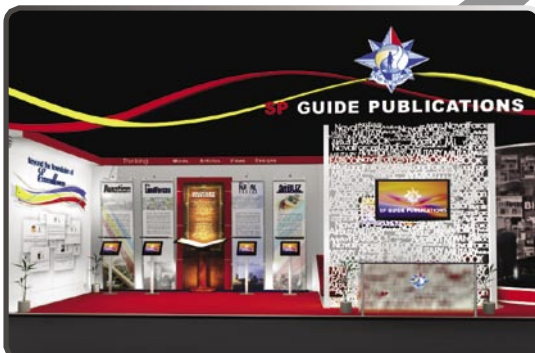
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**SP's
NAVAL
FORCES**

BIRD VIEW OF AIR FORCE STATION YELAHANKA



We are at Hall C, Booth 14



Airbus Military: Three key campaigns



THE A400M

Today Airbus Military is involved in three major campaigns in India with the A330 MRTT (Multi Role Tanker Transport), the C-295 Transport Aircraft and the C-295 Maritime Patrol Aircraft. In the future, EADS foresees opportunities for more mission aircraft based on its highly dependable and cost effective products, as well as replacements for medium and heavy military transport aircraft with the A400M.

The A330 MRTT is a medium-to-long range, twin aisle, twin-engine aircraft of the Airbus family. Its design combines a proven fly-by-wire control system, advanced avionics and a large basic fuel capacity. The A330 MRTT is offered with a choice of air-to-air refuelling options. Airbus Military has won the last five international competitions for multi role tanker transports.

The C-295 design is based on the well-known CN-235 (250 aircraft sold to 27 defence forces), and are the best selling aircraft in their segment. The C-295 has already sold 68 aircraft to ten armed forces and both aircraft have earned a worldwide reputation for reliability and supportability in operations. The C-295 is a new generation, twin-engined, pressurized aircraft with a 9 tons payload and low fuel consumption, giving very long range and endurance. Its STOL capabilities and strong landing gear enable it to operate in the most austere locations with the worst conditions for take-off and landing.

The C-295 Persuader is a military multi-role aircraft with optimum characteristics for Maritime Patrol. Based on the CN-235 Persuader (proven as an MPA in operation since 1994 with thirty-eight aircraft contracted by ten operators), the CN-235/C-295 family is the undisputed leader in the medium size MPA market. With its FITS (Fully Integrated Tactical System) palletized mission system, there is the capability to integrate information coming from search radar, FLIR, AIS, ESM and antipollution systems and with its COMINT capabilities the C-295 maximizes multi-mission performance. •

Have a FEEL of services we can offer by

- Flipping through the pages of our 5 publications
- Browsing through our 7 websites

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Whether it's deploying troops and equipment, or providing artillery and logistics support, no other helicopter can match the muscle of Chinook. Its unique heavy-lift capability makes it the ideal platform for tactical mobility, day or night, no matter how perilous the environment. And today's Chinook is stronger, with more powerful engines. To bring even more muscle to every mission.

