



# E - NEWS

EVERY MONTH FROM AERONAUTICAL SOCIETY OF INDIA

Volume - 5

July - 2011

Release - 7

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Journal of Aerospace Sciences  
and Technologies  
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## Advertisement - Tariff

A4 - 1 Full Page : Rs. 2000  
Draft Drawn in Favour of  
"Journal Office, The Aeronautical  
Society of India" Payable at  
Bangalore

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**India to buy C-17 heavy-lift transport aircraft from US -  
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**Golden jubilee of India's first combat aircraft celebrated  
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## READER'S RESPONSE

The editorial team invites your views, suggestions, to the  
News about Members Column and contributions to the e-news.

## Golden jubilee of India's first combat aircraft celebrated

Golden jubilee of the maiden flight of HF-24 (Marut), India's first indigenous combat aircraft, was celebrated with those associated with it in various capacities going down the memory lane narrating their experiences. Commander-in-Chief of Strategic Forces Command (SFC), Air Marshal K J Mathews termed it a "phenomenal aircraft" and recalled that he had flown it for 300-odd hours as a pilot officer and flying officer. At a function organised by Hindustan Aeronautics Limited in Bangalore, HAL's Chief Test Pilot Squadron Leader Baldev Singh said: "The Marut indeed was an aircraft ahead of its times", while HAL's Director (Design and Development) N C Agarwal spoke on the design and development stages of the project. On June 17, 1961, with Gp. Capt Suranjan Das at the controls, the HF-24 tail number BR 462 took to the air for the first time. HAL built 129 single seater's and 18 trainers from 1964 to 1977. During 1971, the Maruts used their devastating firepower on Pakistani troops, vehicle concentrations and transportation systems in Naya Chor sector and along the Rohri-Khanpur railway line. Officials said the Maruts also encountered occasional air opposition, though not a single aircraft was lost to aerial combat. The last sortie of the beautiful and versatile aircraft was flown on October 8, 1984 on the Air Force Day by Wg Cdr Vikram Pethia. The aircraft retired gracefully, and now rests, in all her majesty, at the Air Force Academy, Dindigul in Tamil Nadu.

Source: *Times of India*

## 'IJT crash hampered initial operation clearance process'

The Hindustan Aeronautics Limited's (HAL) silence over the impact of the Intermediate Jet Trainer (IJT) crash in late April was broken with Indian Air Force (IAF) Chief Air Marshal V Naik saying it has hampered the Initial Operational Clearance (IOC) process. An IJT prototype(S-3466) had crashed in April while performing a sortie near Lakshmipuram in Krishnagiri district of Tamil Nadu, making it the third crash for the family of aircraft since 2007. HAL had, after the crash, set up a probe committee, but had refused to divulge any information about the status of the report or on the implications of the crash. "The IJT was scheduled for the IOC in July, but we will have to see if they (HAL) can sort out the problems and repair the aircraft for the same." The committee probing into the matter, he said, is in the final stages and that the report will be submitted soon. He admitted that this is surely going to cause another delay in the clearance process.

Source: *Deccan Herald*

## Boeing to Build 10 C-17 Airlifters for Indian Air Force

Boeing [NYSE: BA] today announced that India's Ministry of Defence has signed an agreement with the U.S. government to acquire 10 Boeing C-17 Globemaster III airlifters. The Foreign Military Sale approved by the U.S. Congress in May 2010 establishes India as the C-17's largest international customer. According to the agreement, India will take delivery of its C-17s in 2013 and 2014. "The C-17 will elevate India's leadership in the region," said Mr Dinesh Keskar, president, Boeing India. "With its tactical and strategic capabilities, the C-17 fulfils India's needs for military and humanitarian airlift. The important transaction reaffirms our close relationship of several decades with India and also highlights our commitment

to the strategic partnership between the two countries." "This agreement is a reflection of the outstanding partnership India's Ministry of Defence has with the U.S. Air Force, which worked very hard to help India strengthen its airlift capabilities with the C-17," said Mr Jean Chamberlin, vice president and general manager, Boeing Mobility.

Source: *PRNewswire*

## New rocket plane could fly Paris-Tokyo in 2.5 hrs

European aerospace giant EADS unveiled its "Zero Emission Hypersonic Transportation" (Zehst) Rocket plane it hopes will be able to fly from Paris to Tokyo in 2.5 hours. "I imagine the plane of the future to look like Zehst," EADS' chief technical officer Mr Jean Botti said as the project was announced at Le Bourget airport the day before the start of the Paris International Air Show. The low-pollution plane to carry between 50 and 100 passengers will take off using normal engines powered made from seaweed before switching on its rocket engines at altitude. The rocket engines, powered and oxygen, whose only exhaust is water vapour, propel the plane to a cruising altitude of 32 kilometres, compared to today's passenger jets which fly at around 10,000 metres.

Source: *Deccan Herald*

## BEML and Alenia Aeronautica sign MoU to develop Basic Trainer aircraft

State-owned BEML Ltd which focuses on the defence sector has signed a Memorandum of Understanding (MoU) with Italian aerospace major Alenia Aeronautica to design, manufacture and sell a basic trainer aircraft, the Bangalore based company said. The proposed aircraft could also be offered to the IAF as a replacement for its current basic trainer, the HPT-32 Deepak, according to a statement by the company. The MoU signed by BEML Chairman and Managing Director V R S Natarajan and Mr Allesandro Franzoni, chief operating officer, Alenia Aeronautica, envisages a "mutual collaboration for designing, manufacturing and selling a new primary/basic training aircraft on a New Generation Screener," according to the press release. Earlier this month, Air Chief Marshal PV Naik announced that Swiss aviation company Pilatu, through its offering PC-7, had emerged as the lowest bidder in the IAF's Basic Trainer competition, which calls for the procurement of 75 aircrafts, a deal estimated at about \$1-billion. Separately, defence PSU Hindustan Aeronautics Ltd has been given the order to design and manufacture a further 106 aircraft.

Source: *Economic Times*

## IAF seeks direct control of HAL to gain combat edge

With an eye on the future and fed up with the "bureaucratic culture" pervading Hindustan Aeronautics Ltd (HAL), the country's only aircraft manufacturer, IAF now wants the control of the navratna defence PSU. IAF has asked the defence ministry (MoD) to appoint one of its three-star officers, instead of a

bureaucrat, as the chairman and managing director of HAL once the present incumbent Mr Ashok Nayak retires on October 31. MoD sources confirmed IAF had even proposed the name of present assistant chief of air staff (operations & space), Air Vice Marshal M Matheswaran, a top-notch fighter pilot now approved for the air marshal rank, for the HAL post. "The matter is being examined...no final decision has been taken," said a source. Simultaneously, a panel of names has also been drawn up to include Pawan Hans chief R K Tyagi, a defence accounts service officer Mr S N Mishra, who earlier was joint secretary(aerospace) in MoD, and MSTC chairman Mr S K Tripathi, among others.

*Source: Times of India*

## HAL mulls copter unit in Shimoga

Shimoga is likely to be the new destination for Hindustan Aeronautics Limited (HAL), which is planning to establish a new helicopter manufacturing unit here. Three senior officials from the HAL discussed the proposed plans with deputy commissioner Ponnuraj. The officials also visited a few places where they could get 600-700 acres of government land for the project. The district administration has identified two places around the city one at Devakathi Koppa and another near Sogane where a new airport is being built. The team, after verifying the basic aspects of land, water and power, will submit a report to the HAL authorities.

*Source: Times of India*

## Aviation ministry to map air-routes for chopper services

In the wake of the growing number of helicopter crashes in the country, the Ministry of Civil Aviation has decided to map air-routes for helicopters. This will help the operators to stick to a specified path and avoid accidents. "A decision to this effect was taken recently and instructions have been passed on to the Director-General of Civil Aviation," Union Civil Aviation Minister Mr Vayalar Ravi told journalists on the sidelines of a function to mark the centenary celebrations of Indian civil aviation. The decision followed the crash which claimed the life of Arunachal Pradesh Chief Minister Dorjee Khandu and four others. A Pawan Hans chopper carrying Mr. Khandu crashed on April 30 at Luguthang, 10 minutes after take-off from the Tawang helipad. Mr. Ravi urged Air India staff to co-operate with the government to turn around the carrier facing a massive debt run up over the years.

*Source: Hindu*

## Securing our skies, slowly

The government adopted a transparent bidding process for the acquisition of 126 combat aircraft. The US, which is out of the race, should understand that on such issues India will not yield to external pressures. At a time when the credibility of the Dr Manmohan Singh Governments lies in tatters, thanks to allegations of corruption, the recent announcement of the Government, narrowing the list of qualified bidders on the acquisition of 126 Medium Multi-Role Combat Aircraft (MMRCA) has, happily, not invited any accusations for corruption, cronyism or nepotism. This is unquestionably because of the reputation for honesty and probity that Defence Minister, Mr A.K. Anthony, enjoys

in India and abroad. But, many like former National Security Adviser Mr Brijesh Mishra aver that our defence procurement procedures are "antiquated and excessively time consuming". They argue that Mr Anthony's fixation with his honest "image" has resulted in serious delays in procurement of vital defence equipment, ranging from Army helicopters and 155 mm Howitzers, to combat aircraft and submarines.

*Source: Hindu Business Line*

## Prithvi II flight test successful

Nuclear weapons capable, surface-to-surface Prithvi-II missile was successfully flight tested for its full range of 350 km by the Strategic Forces Command (SFC) personnel. The nine-metre tall Prithvi11, the first indigenously built surface-to-surface strategic missile, was fired from a mobile launcher from Launch Complex-III at the Integrated Test Range at Chandipur in Orissa. It achieved a high degree of accuracy and zeroed in on the pre-designated target in the Bay of Bengal with a CEP (Circular Error Probability) of less than 10 metres. The flight test met all the mission objectives and was like a text-book launch. A battery of radars, electro optical telemetry stations and a naval ship located near the impact point tracked and monitored the entire event, including the missile's trajectory and final splashdown. The missile was picked up randomly from the production lot and the launch operations were carried out by SFC personnel and monitored by scientists of the Defence Research and Development Organisation (DRDO).

*Source: Hindu*

## IAF Seeks Land for Missile Stock Centre

The Indian Air Force has sought allocation of nearly 1,400-acre land from the Sonitpur district administration in lower Assam for setting up a missile stock centre near the IAF station here. District Deputy Commissioner Mr Tapan Chandra Sarma said that the IAF's request for 1,397 acre for its missile centre was being examined as it included 197 acre forest land. A five-member committee had been formed by the administration with Deputy Commissioner, two senior IAF officials, divisional forest officer of West Sonitpur division and a revenue-official to assess the feasibility for allocation of the land. Sarma also said that the Indian Defence Authority had requested the allocation of another piece of land measuring 1,190 acre for the establishment of its ammunition depot at Kalamati near Missamari in the district.

*Source: Indian Express*

## Aerospace industries want restrictions lifted

Suggesting a few changes to the Defence Procurement Policy 2011 to encourage larger participation of small and medium enterprises in the defence and aerospace projects, the society of Indian Aerospace Technologies and Industries (SIATI) has asked the government to remove the heavy restrictions on them. At a seminar, 'Role of SMEs in Defence and Aerospace Sector', SIATI President Dr. C.G Krishnadas Nair said these changes were needed for the effective participation of the SMEs in the upcoming defence and aerospace projects. He said reforms

were required for removing the restrictions and allowing the foreign vendor to choose the right offer partner (Indian companies) and discharge the offer obligations.

*Source: Deccan Herald*

## 'ISRO business unaffected by Antrix-Devas deal'

The Indian Space Research Organisation (ISRO) has denied that the Antrix-Devas deal had impacted India's satellite launch business. Addressing a press conference, ISRO Chairman Dr K Radhakrishnan said there was a strong demand for launching foreign remote sensing satellites through the Polar Satellite Launch Vehicle (PSLV). "We have

about 12 satellites as of today. We have a firm order and these are scheduled to be launched in the coming two years," he said. The satellites are mostly Canadian, Indonesian and German, including a 800-kg environment monitoring satellite. Right now, preparations are in full swing for the launch of PSLV C-17 in the middle of July, carrying the GSAT12 communication satellite. The launch vehicle is presently being integrated and tested at Sriharikota and will be integrated with the GSAT will be carrying 12 transponders in the extended C Band and will cost Rs 158 crore.

*Source: Deccan Herald*

## Hamsa the ferry, no longer just a fairy tale

National Aerospace Laboratories (NAL) has developed an air propelled ferry system CSIR Hamsa to access difficult terrains such as marshy land and water. Hamsa, with a likely price tag of Rs4 lakh, can be used for eco-tourism, fishing, leisure, geometrics, law enforcement, search and rescue operations. The ferry, named after the mythological bird which does not fly but moves in land and water, is a self-propelled multi-terrain vehicle which depends primarily on air thrust for propulsion. "In India, over 400 million people live along the coastline and water bodies like rivers, lakes, shallow water regions of which many are filled with weeds. The air ferry can be used in a wide variety of applications where access is a problem," said Dr S Selvarajan, NAL scientist. Hamsa is undergoing trial runs at Ulsoor Lake and can be custom-built with different hull designs. One of the models is a six-seater Parisil-boat all terrain vehicle which operates on a Simonini mini aero engine. Another model is a three-seater which can be used for clearing weed and rescue operations in lakes and rivers. The third model is based on the Indian coracle. Called 'water auto' it is a basic coracle which can be rendered very stable by attaching 'strap-on out triggers'. It would cost around Rs10, 000 per unit. "Coracles are banned in Karnataka after many capsizing incidents. With the strap-on out triggers, the coracle is unsinkable. Discussions are on with the state government for its application," said Dr Selvarajan.

*Source: DNA*

## HAL Comes to IAF Aid to make Sukhoi BrahMos-ready

Even as the Indo-Russian joint venture BrahMos Aerospace completed 10 years, the company has written to the Indian government to allow indigenous modification of the Russian-built Sukhoi Su-30 MKI jets to integrate the BrahMos supersonic cruise missile with it. The moves come in the light of Russian quoting an exorbitant price to carry out the modifications. The Indian Air Force and BrahMos have decided to go ahead with the indigenous alternative despite Russia "cautioning" that it would not be responsible for accidents if the modifications are not done by the Original Equipment Manufacturer (OEM). "We have already written to the government that we do not need the modifications to be carried out in India. They (Russians) are proposing to do deep up gradation of the fighter jets at a huge cost, but that is not required," a senior official from BrahMos Aerospace Pvt Ltd told.

*Source: Indian Express*

## Multi-role aircraft, Mirage pacts soon: Naik

Things are looking up and moving for the Indian Air Force. While the Multi-role Medium Range Combat Aircraft (MMRCA) contract will be signed in September, the Mirage-2000H upgrade proposal is set to be sanctioned within the next few days. India is planning to purchase 126 MMRCA to bolster its squadrons. Six aircraft - MiG 35, F-16, F-18, Gripen, Rafale and Eurofighter - went through technical trials and of them, the latter two have been shortlisted for purchase. One will be selected for the final contract. Chief of Air Staff and Air Chief Marshal P V Naik, who was in Bangalore, said he would have liked things to move faster. "I was hoping the MMRCA deal would come through much earlier. The technical oversight committee will submit its report within two weeks. Then it will go to CCA and commercial bids will be opened. We should be in a position to sign this contract by September this year. Eurofighter and Rafale are the two contestants short listed for the final aircraft." He confirmed that the Mirage 2000 upgrade contract will be going to the Cabinet committee on security after defence minister Mr A K Antony's approval in a day or two.

*Source: Times of India*

## Pilatus PC-7 May be IAF's Choice for Trainer Aircraft

The Swiss-made Pilatus PC-7 has emerged as the lowest bidder for the Indian Air Force's basic trainer aircraft tender, Air Chief Marshal PV Naik announced. "We had shortlisted three companies - the Americans, Swiss and the Koreans. Now we have shortlisted down to the lowest bidder, which is the Swiss vendor, Pilatus. Commercial negotiations are going on. Hopefully, within the next one and a half to two years, we will be able to start the supply of the aircraft." Air Chief Marshal Naik said at a press briefing held at the IAF's Headquarters Training Command. Other contenders in the running for the globally-issued tender included the American Hawker-Beechcraft T-6C Texas-II, Korean Aerospace's KT-1 and the Pilatus PC-21. Under the current tender, 75 trainers are to be procured from the vendor. Separately, a further 106 basic trainer aircraft, named the Hindustan Turbo Trainer-40, will be designed and manufactured by state-owned defence undertaking Hindustan Aeronautics Ltd.

*Source: Economic Times*

## Another task for the PSLV

In its forthcoming mission, scheduled for the second week of July, the Polar Satellite Launch Vehicle (PSLV) will, for the first time, be carrying a communications satellite, the 1,425-kg GSAT-12. The PSLV was originally developed to carry India's remote sensing satellites, which are typically placed in a polar orbit. In 2002, on its seventh mission, the rocket was used to launch the country's first dedicated meteorological satellite, Metsat, later renamed Kalpana-1 in memory of Kalpana Chawla, the Indian-born U.S. astronaut who died in the Space Shuttle Columbia disaster in 2003. Like communication satellites, this meteorological satellite was put into geostationary orbit. In this orbit, some 36,000 km above the equator, the spacecraft matches the earth's rotation and therefore appears stationary from the ground. From its vantage point in space over India, Kalpana-1 keeps constant watch over evolving weather systems. For communications satellites like the GSAT-12, it is good perch to relay telephone conversations, data, and television broadcasts.

Source: *Hindu*

## Saturn's moon has salt-water lake

Five years ago, scientists discovered that Enceladus, one of Saturn's moons, had geyser like plumes spewing water vapour and ice particles. These plumes originate from a salt-water reservoir, according to a new study published online by the journal *Nature*. "We discovered that the plume is stratified in a composition of ice," said Frank Postberg, an astrophysicist at the University of Heidelberg in Germany. "And the lower you go, the more salt rich ice grains you find." Postberg and his collaborators analyzed samples of ice particles from the plumes gathered by Nasa's Cassini spacecraft. The analysis found that salt-rich particles make up more than 99% of the solids ejected in Enceladus's plumes.

Source: *Times of India*

## Agni-V to be test fired by year-end

India will for the first time test fire its 5,000-km range Agni-V ballistic missile by the end of this year in what is being seen as a major leap in the country's missile capability. "Agni-V missile would be ready for test by the end of this year, probably in December," the Defence Research and Development Organization (DRDO) Chief, Mr V.K. Saraswat, said here today on the sidelines of a function. He said that the 3,000-km range Agni-111 missile has already been inducted into the armed forces. "Agni-III is already inducted. Its development has been completed and is under production," he added. Mr Saraswat was replying to the queries on development schedule of Agni-III and Agni-V series of missiles after the Defence Minister, Mr A.K. Antony, who

addressed the function, asked DRDO to priorities development of the 5,000-km range ballistic missile." The first trial is expected to start in December this year followed by a series of modifications and further trials over the next few years. This missile would be based on the concept of re-entry vehicle capable of covering whole of Pakistan and China," DRDO officials said.

Source: *Hindu Business Line*

## India to induct N-Capable Ballistic Missile into Its Arsenal

India may soon join the elite club countries possessing nuclear capable ballistic missile of over 5,000 km range when it test fires Agni-V, under final stages of development, by the year end. Starting its ballistic missile programme in late 80s to counter threats from Pakistan, and China in particular, India so far has developed four variants of Agni ballistic missile, the latest being Agni-III intermediate range ballistic missile having range of 3,000 km. "Agni-V missile would be ready for test by the end of this year, probably in December," DRDO chief V K Saraswat said on Friday on the sidelines of a function. He said that the 3,000-km range Agni-III missile has already been inducted into the Armed Forces. "Agni-111 is already inducted. Its development has been completed and is under production," he said. Agni-III is considered to be one of the highly-accurate ballistic missiles as its Circular Error Probable lies in very close range of less than 40 meters. Exhorting the fraternity of Defence scientists to "show more confidence in indigenous capabilities" by soon delivering the fifth variant of Agni missile, Defence Minister A K Antony also asked them to develop a credible Ballistic Missile Defence System for the country.

Source: *Indian Express*

## GAGAN - making GPS more accurate

These days, anyone who wants to find out exactly where they are can turn to their mobile phones. Phones that pick up signals from orbiting U.S. Global Positioning System (GPS) satellites are now commonplace. The phone uses that information to work out the location and display it on a map. In a similar fashion, the GPS signals can be used to assist aircraft during take off and land as well as in flying shorter routes to their destination. But, as there can be hundreds of passengers in a single aircraft, the use of GPS for such purposes in civil aviation demands higher accuracy in determining position than a mobile phone user would need as well as greater reliability in doing so. One important way to meet the demands of civil aviation has been through what is known as a Satellite-Based Augmentation System (SBAS). Satellites in geostationary orbit, where they match the earth's rotation and therefore remain over the same place on the globe, are used to supplement the GPS signals.

Source: *Hindu*

## NAL to develop civilian aircraft

The National Aerospace Laboratories (NAL) will soon work on designing and developing a National Civil Aircraft for regional connectivity, Union Minister of State for Science and Technology, Mr Ashwin Kumar said. The NAL has completed a feasibility study on design and development of the aircraft, which will help to connect

Tier-II and Tier-III cities with major metros, he said. According to the feasibility study, the estimated cost of the project is Rs 7,555 crore, of which the design and development phase will cost Rs 4,355 crore, and production Rs 3,200 crore. The study concluded that a 70-100 seat regional transport aircraft had market potential. Kumar said the development of the programme was of strategic interest as it would have several spin-offs. "I wish we had more

aircraft, considering our own domestic demand. Of course we are a bit delayed in this venture, but we will make up for the lost time", he said. "NAL needs to move from pure science/research to developing innovative technology. The Government of India will fully support their programmes irrespective of their financial needs," added Kumar. NAL Director Dr A R Upadhyaya said his organisation was already partnering with German firms on the project. "We have already signed MoUs to help us in areas such as advanced avionics and next generation engines", he said.

*Source: Deccan Herald*

## Boeing Gets Navy's P-8I Aircraft ready

The failure in the race for India's medium multi-role combat aircraft fleet procurement process has been a major setback for Boeing, but the company is hopeful that it can get a significant share of India's growing defence market. Boeing has begun final assembly of Indian navy's first P-8I long-range maritime reconnaissance aircraft earlier this month. A recent Deloitte research report had projected India's defence spending to be roughly \$80 billion over the next 4-5 years. About 65-70% of India's defence requirements is imported from global aerospace and defence companies. A \$11-billion deal awaits the winner of the medium multi-role combat aircraft fleet supply, with the Eurofighter Typhoon and Dassault Rafale being the final two in the race. "The Indian defence market has grown over the last five years, and we hope to have additional success in India in the coming days", Mr Chris Chadwick, president of Boeing's military aircraft, defense, space and security told ET. India had recently agreed to purchase 10 C-17 Globemaster III transport aircraft from Boeing at an estimated \$4.1 billion outlay.

*Source: Economic Times*

## GoAir orders 72 A320s for \$7.2 b

Low-cost carrier GoAir is set to purchase 72 Airbus A320 aircraft for \$7.2 billion (Rs 32,400 crore). This is the second largest aircraft order in the domestic industry after IndiGo said in January it has ordered 180 A320s at \$16 billion. Mr Jeh Wadia, Managing Director, GoAir, said the delivery of the A320s with the new engine option (NEO) will start from 2015. "These new aircraft will be delivered over 5-7 years" we will receive about 15 aircraft every year. The purchase will be financed in a combination of equity and debt. These are all firm orders," he said. The A320 NEO offers 15 per cent savings on fuel burn and 11 per cent reduction on operating cost per seat, which will enable the airline reduce fares, Mr Wadia said.

*Source: Hindu Business Line*

## Navy issues tender for multi-role helicopters

Intending to 'augment' its existing fleet of multi-role helicopters, the Navy has issued a tender to acquire metal birds capable of anti-submarine warfare, surface warfare and special commando operations. Interestingly, the Request for Information (RFI) has been sent to vendors even as the procurement of 16 such choppers for \$1 billion is currently pending. The tender, however, does not specify the number of helicopters required. The Defence Minister RFI seeks helicopters with the capability to perform these roles and

which are easy to maintain. The Navy has also sought life-cycle costing model from vendors with a view to operate and maintain the helicopters for a life span of 30 years from the date of induction. The helicopters, to be procured according to the Defence Procurement Policy-2011, will be replacing the ageing British-built Sea King helicopters.

*Source: Indian Express*

## India to buy C-17 heavy-lift transport aircraft from U.S

India decided to purchase 10 C-17 Globemaster III heavy-lift transport aircraft from the U.S. for the Indian Air Force. The deal under the Foreign Military Sales (Government-to-Government) is estimated to cost Rs. 18,000 crore (approximately \$4.1 billion). The decision was taken at a meeting of the Cabinet Committee on Security under the chairmanship of Prime Minister Dr Manmohan Singh, Defence Ministry officials said. The contract, when signed would become the highest single value military contract that New Delhi would enter into with the U.S. and includes an offset obligation of around Rs. 4,500 crore (\$ 1 billion). Under the clause, the U.S. Company would have to source 30 per cent value of the order from India. Work on the deal began last April during U.S. President Mr Barack Obama's visit to India when it was announced that New Delhi had agreed to buy these aircraft. In April 2010, the U.S. Defence Security Cooperation Agency informed the U.S. Congress on the possible sale at an estimated cost of \$ 5.8 billion. The inventory included 45 engines (40 installed and 5 spare engines), missile warning systems, spares and repair parts, repair and return, flares, other explosives, aircraft ferry and refuelling support, crew armour, mission planning system software, training and training equipment, publications and technical data. The offer from Boeing was for the latest Block 18 aircraft.

*Source: Hindu*

## Kingfisher revives \$300-m fund raising plan

Kingfisher Airlines has resumed talks with investors to raise \$300 million through global depository receipts (GDR), but did not specify a timeframe for the issue. The company has a debt of about Rs 6,000 crore. We had to postpone the GDR issue as fuel prices were going sky high. When we had planned this out, it was on the basis of fuel prices remaining at around \$90 per barrel. But the prices have shot up to \$120. So, clearly, it had to be postponed. Now, with fuel prices coming down, the investors are engaged with us," Mr. Vijay Mallya, Chairman, Kingfisher Airlines, said on the sidelines of the International Air Transport Association Annual General Meeting.

*Source: Hindu Business Line*

## National level DRDO Awards

City based defence industries and organisations have bagged a considerable number of Awards at the National Level Defence Research and Development Organisation (DRDO) awards. A total of 11 category of awards were presented by Defence Minister A K Antony. Agni Awards for Excellence in Self-Reliance for the year 2010 Dr A K Singh, Sc 'G', Electronics and Radar Development Establishment (LRDE), Bengaluru Mr M Z Siddique, Sc 'G', Gas Turbine Research Establishment (GTRE), Bengaluru. Performance Excellence Awards 2010: Mr P S Krishnan, Distinguished Scientist and Director, Aeronautical Development Establishment (ADE), Bengaluru and his team. Mr S K Shenoy, Sc 'G', Naval Physical and Oceanographic Laboratory (NPOL), Kochi and team members.

Source: Indian Express

## Dr (Prof) N S Venkataraman - contribution

Dr (Prof) N S Venkataraman, F – 365, Former Director of MIT (Anna University), Former Director of TIFAC, DST, Government of India, Former Vice President of AeSI, as well as the First honorary Secretary General of AeSI, has donated Rs 50,000/- (Rupee Fifty Thousand only) to MIT for instituting prize for the 2 outgoing students. Who secure the maximum aggregate marks in the course M.E (Aeronautical Engineering) and M.E (Avionics) of MIT, Chennai

## SAROD - 2011

5th Symposium on Applied Aerodynamics and Design of Aerospace Vehicle

**Date:** 16-18 November 2011

**Venue:** Eagleton Resorts, Bangalore, India

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