



# E - NEWS

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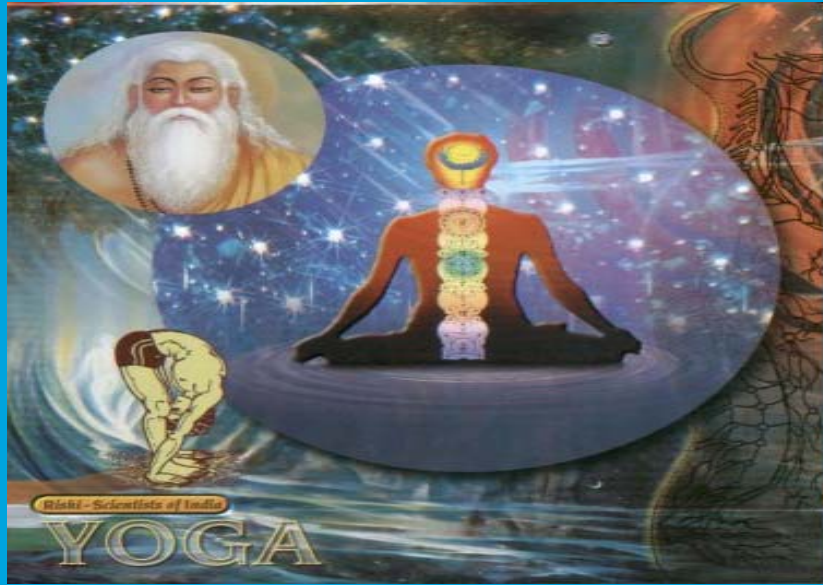
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**ACHARYA PATANJALI (200 BCE)**

**FATHER OF YOGA**

The Science of Yoga is one of several unique contributions of India to the world. It seeks to discover and realize the ultimate Reality through yogic practices. Acharya Patanjali, the founder, hailed from the district of Gonda (Ganara) in Uttar Pradesh. He prescribed the control of prana (life breath) as the means to control the body, mind and soul. This subsequently rewards one with good health and inner happiness. Acharya Patanjali's 84 yogic postures effectively enhance the efficiency of the respiratory, circulatory, nervous, digestive and endocrine systems and many other organs of the body. Yoga has eight limbs where Acharya Patanjali shows the attainment of the ultimate bliss of God in samadhi through the disciplines of: yam, niyam, asan, pranayam, pratyahar, dhyana and dharna. The Science of Yoga has gained popularity because of its scientific approach and benefits. Yoga also holds the honored place as one of six philosophies in the Indian philosophical system. Acharya Patanjali will forever be remembered and revered as a pioneer in the science of self-discipline, happiness and self-realization.

## READER'S RESPONSE

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

## Want to go to space? Contact IAM

India's ambitious Human Space Flight mission might be a good five years away. But at the Indian Air Force's Institute of Aerospace Medicine (IAM) preparations are already underway to screen and select astronauts for the mission. The Bangalore-based IAM, which is the hub of aerospace medicine activity in India, has already started upgrading its laboratories at the institute apart from conducting research activities for the country's maiden Human Space Flight mission which is expected to take place in 2015-16. "Being the only institute in the country which has been carrying out extensive aerospace medicine activities in the country IAM has a vast knowledge about the effect of space on humans. Being a critical mission due to the involvement of the human element we are leaving no stone unturned to ensure that the selection and training of the prospective astronauts is carried out by putting in place the best practices," said the Commandant of IAM Air Commodore Giles Gomez. At the IAM the prospective astronauts would be subjected to physical examinations like cardiac, dental, neurological, ophthalmologic, psychological, radiographic and ENT tests. To ensure that the screening procedure matches the best in the world, new laboratories and equipment are being set up and procured. Besides scientists are also conducting research to ensure that the prospective astronauts stay in the space during the mission is less cumbersome. "Research is currently on in the institute on the different types of food which the astronauts would consume during the mission. Experiments are being conducted on high protein, carbohydrate, fatty foods on what effect they would have on the astronauts in micro gravity conditions," said a scientist involved in the project. Air Commodore Gomez said having been involved in the selection of candidates for the Indo-Soviet Manned space flight in the 1980's and having been part of the medical monitoring team of India's only cosmonaut Wing Commander Rakesh Sharma the IAM has sufficient knowledge on the human space mission. The astronauts zeroed in by the IAM will be trained at the Astronaut Training Centre which the Indian Space Research Organisation is planning to set up near Devanahalli.

Source: [www.dnaindia.com](http://www.dnaindia.com)

## Air India to add 125 aircraft by 2015; looks at introducing more flights on domestic routes this year

The state owned national carrier Air India is expected to add 125 aircraft to its current fleet of 120 by end of 2015. Deloitte Consulting India Pvt Ltd has chalked out a turnaround plan for the airline. As per their turnaround strategy, Air India will look at ways to optimise revenue profit by introducing new routes for the domestic and international market, add capacity on the existing routes, as well as focus on expanding their fleet size. Informing about the development Mr K D Row, Executive Director Sales & Marketing – India Region, Air India said, "We have worked on a turnaround plan in a way to optimise the profits for the airline and the same has been approved by the management team at Air India which will be effective soon. As per the company's expansion plan is concerned, we have already invested more than Rs 35,000 crore to buy the new aircraft from Airbus and Boeing." "Particularly for this year we are focussing on to connect to more domestic routes especially North East Region and Tier II and Tier III cities. While on the international side, this year, we have plans to start direct daily flights to Melbourne and the US, also we have plans to add capacities on our existing international routes such as in far East and in Gulf countries,"

added Mr Row. Furthermore, as the company is the official airline partner for the International Indian Film Academy (IIFA) 2011 awards, Air India will operate four special flights to Toronto, Canada from Delhi with a stopover at Mumbai. As the IIFA event will be held from June 23-25, 2011, the airline will operate special flights from June 19 – 22, 2011 to Toronto and back from June 25-27, 2011. The airline currently operates seven direct daily flights from Delhi to Toronto. The event is supported by Ministry of Tourism, Ministry of Economic Development and Trade, Tourism Ontario and Government of Ontario.

Source: [www.travelbizmonitor.com](http://www.travelbizmonitor.com)

## Pawan Hans to start academy in 6 months

Pune is set to get a helicopter training centre with Pawan Hans Helicopters Limited (PHHL) announcing their first chopper training academy in the city. The MoU signed in February and the training institute is likely to be fully operational in another six months and will have Maintenance Repair Operations unit and related activities. On April 11, Pawan Hans got the Mini Ratna status. "We are on the fast track to come up with this centre," said Pawan Hans Chairman and Managing Director Mr RK Tyagi. He said that they would help not only Pawan Hans helicopters but also other operators and look at training personnel once the institute comes up. The upcoming academy finds a key mention in the ministry of civil aviation's five-year strategic plan (2010-15) and has been positioned as one of the important centres along with the Indira Gandhi Rashtriya Udaan Academy and the National Institute of Aviation Management and Research for rolling out world class human resource for the aviation industry.

Source: [www.indianexpress.com](http://www.indianexpress.com)

## BIA will now become Kempegowda airport

Bengaluru International Airport will go by the name of Kempegowda International Airport. During the 500th birth centenary celebrations of Bangalore's chieftain, chief minister Mr B S Yeddyurappa announced that the government had decided to rename the airport. He was speaking after giving away the Kempegowda awards to 234 persons from various fields. "The decision, however, needs the Centre's nod. An allparty delegation will go to the Prime Minister with a plea to rename BIA," the CM said. Bangalore South MP Mr Ananth Kumar gave examples of airports like O'Hare Airport at Chicago, Charles De Gaulle Airport at Paris, the Chhatrapati Shivaji Airport at Mumbai and Subhash Chandra Bose Airport in Kolkata, that are all named after leaders and prominent people from these cities. "BIA should get the name of 'Nada Prabhu' Kempegowda. The Union cabinet's nod is also required for the new name," he said

Source: [www.20twentytwo.blogspot.com](http://www.20twentytwo.blogspot.com)

## PSLV-C 16 Soars To Success

Shaking off aspersions over two failed GSLV launches last year, the Indian Space Research Organisation rose to another level of success with the 17th consecutively successful launch of a polar satellite launch.

In a precision launch, PSLV-C 16 placed in an 822-km sun synchronous orbit three satellites Resourcesat-2, an Indo-Russian Yuthsat and Singapore's first satellite X-Sat. The satellites were placed in orbit 18 minutes after launch from the Sriharikota spaceport. Isro chairman Dr K Radhakrishnan said the launch was a grand success, though there was a minor difference in the orbit achieved. We wanted to put the satellites into an 820-km orbit, but we got an 822 km orbit, he said. The mission cost Rs 250 crore. The launch was keenly watched across the world as data from Resourcesat- 2 will be used by 15 countries. The satellite, which weighs 1206 kg, will collect data including those on ground water and mineral resources and on land and fish density in the oceans. The satellite is equipped with three cameras that can cover widths of 740 km, 141 km and 17 km at resolutions ranging from 22 metres to 5 metres. The satellite will replace Resourcesat- 1 which is in orbit since 2003. Resourcesat- 2 is a global mission and has many improvements. It has three cameras that can monitor natural resources at different resolutions. It can be used to monitor snow cover, glacier changes, urban landscape and others, said Dr Radhakrishnan. PSLV-C 16 mission director Mr P Kunhikrishnan said all the stages of the rocket performed well. The solid stage propulsion and liquid stage propulsion worked well and we were able to achieve the orbit in 18 minutes. The solar panel of Resource Sat-2 has been deployed and the satellite was pushed to the second orbit soon, he said.

*Source: Times of India*

## Design flaw behind GSLV crash

Design deficiency in the shroud (cover) at the bottom of the cryogenic stage has been identified as the primary factor in the crash of Isro's GSLV-F06 flight on December 25, 2010, over the Bay of Bengal. A report on this has been submitted to the department of space. The cover at the bottom of the cryogenic stage could not withstand load and pressure distribution that built up as the flight took off and caused the "pulling out" of the connectors between the onboard computer in the equipment bay and four strap-ons on the first stage, aborting a signal to the strap-ons, ultimately leading to altitude dip and crash, failure analysis committee chairman and former Isro chairman Dr G Madhavan Nair told TOI.

*Source: Times of India*

## Govt should develop aviation infrastructure in hinterlands

As efforts are on to develop non-metro airports, a top global aviation expert has said the government should take the lead in developing aviation infrastructure in Tier-II and

Tier-III cities with the private sector pitching in to provide commercial support. "One way to mitigate the risk (of private investment in non-metro airports) is that the government provides basic infrastructure like airfields and terminal buildings. It is only then that private sector can come in to provide for commercial activities," Mrs Angela Gittens, Director General of the Airports Council International (ACI), told PTI. "You should not expect private parties to come up and invest in such areas. There should be a balanced approach," said the head of the global airports' body with 586 operators as its members. She said the government should play a role in growing these hinterland markets by providing land, runways, taxiways and other basic infrastructure.

*Source: Economic Times*

## DRDO laboratory's new facility inaugurated

Mr Vijay K. Saraswat, Scientific Adviser to the Defence Minister, inaugurated the J.C. Bose Microwave Tube Facility at the Microwave Tube Research and Development Centre. The centre is a constituent laboratory of the Defence Research and Development Organisation (DRDO), and carries out frontline research on microwave tubes for defence applications of radars and electronic warfare systems. It is co-located at BEL, Bangalore, for synergistic research and development, and productionisation, said a release from DRDO. The J.C. Bose facility is an integrated microwave tube development unit that houses state-of-the-art precision fabrication . . . machineries, high-voltage test facilities, environment test facilities, high-power microwave generation and diagnostics facilities.

*Source: Hindu*

## Tata Power to modernise IAF's airfield infrastructure

Tata Power Company Limited, through its Strategic Electronics Division (SED), has won the mandate to modernise the airfield infrastructure of Indian Air Force (IAF). Tata Power won the contract in a global defence tender floated by the ministry of defence, the company said in a release. Under the contract, Tata Power will carry out the first phase of airfield infrastructure modernisation programme (MAFI-I), which is of strategic importance. The programme aims at improving capability of the airfields to handle the fleet of modern combat aircraft being inducted by the IAF. "Tata Power SED has been closely working with MoD and DRDO to provide state-of-the-art solutions to Indian armed forces for the past four decades.

*Source: domain-b.com*

## India quietly begins combat drone project

India is quietly going ahead with an ambitious programme to develop its own stealth UCAVs (unmanned combat aerial vehicles) or 'smart' drones capable of firing missiles and bombs at enemy targets with precision. Talking about the secretive AURA (autonomous unmanned research aircraft) programme for the first time, Defence Research and Development Organization (DRDO) told that the aim is to develop the UCAVs for IAF in seven to eight years. "With Rs 50 crore as seed money, a full-fledged project team with 15-18 scientists has already begun work on the UCAV's preliminary design and technology. With on-board mission computers, data links, fire control radars, identification of friend or foe, and traffic collision

avoidance systems, they will be highly intelligent drones," DRDO's chief controller R&D (aeronautics) Dr Prahlada said.

Source: *Times of India*

## New ISRO facility to test satellites

A new nitrogen-based acoustic test facility for satellites has been inaugurated at ISRO's ISITE testing complex in Bangalore, according to a release from National Aerospace Laboratories. A large number of qualifying tests on satellites can be now done under one roof at ISITE, it said. NAL was chosen in 2007 to design, build, operate and maintain the new facility, the ninth such in the world. The CSIR lab also hosted ISRO's older test facility at its second campus in Bangalore. The ISITE Acoustic Test Facility at Kundanahalli is also close to the ISRO Satellite Centre which builds spacecraft. The ISRO Chairman, Dr K. Radhakrishnan, inaugurated the facility. The release said satellites are launched at very high velocity.

Source: *Hindu Business Line*

## Designers insist Tejas will belie all sceptical questioning

With the Tejas Light Combat Aircraft (LCA) entering service with Indian Air Force squadrons, the designers of this indigenous fighter have explained why they believe this will be the world's premier light fighter. The Tejas Mark-II, to be developed by 2014 and roll off production lines by 2018, will perform 40 per cent better than the current fighter. After which would come the Advanced Medium Combat Aircraft, the AMCA, which the Defence Research and Development Organisation (DRDO) says will be a "fifth-generation plus" fighter, more formidable than anything flying today. Mr P Subramanyam, director of the Aeronautical Development Agency (ADA), which is developing the LCA and the AMCA, responded to IAF criticism that the Tejas was not yet a world-class fighter. He said the Tejas Mark-I, still being flight-tested, had been flown to just 85 per cent of its full capability. The Tejas Mark-II — in which a more powerful GE-414 engine will replace the current GE-404 engine — would perform another 15 per cent better.

Source: *Business Standard*

## Scientists struggle with IJT,Saras;but LCA is a ray of hope

The crash of the Intermediate Jet Trainer (IJT) has brought to light the complex situation the Indian aerospace community

finds itself in. How is it that Indian aero-scientists and the IAF have been able to develop a highly complex aircraft and trainer in the Light Combat Aircraft (LCA) to Initial Operational Clearance, without a single crash, but are struggling to develop an intermediate version of a military aircraft trainer, the IJT, and the first indigenous civil aircraft, Saras. The IJT crash and NAL's indigenous Saras crash in March 2009, which killed three pilots, pose a serious challenge to the aerospace community in building an indigenous intermediate military trainer aircraft on the one hand, and an indigenous civil aircraft, on the other. In between, LCA has emerged as a beacon of hope.

### IJT VERSUS SARAS

While IJT is intended to help train pilots in the military domain, the Saras is a civil aircraft. Aero-scientists say technologies involving the two types of aircraft are different, as are the dimensions of flight, aerodynamics, play of engine power and manoeuvrability of the aircraft. The Saras has been criticized for being woefully overweight and behind schedule. The Saras first flew in 2004, and the first prototype exceeded its empty-weight target by almost 25% (990kg). The original 850shp Pratt & Whitney Canada PT6A pusher turboprops had to be replaced with 1,200shp versions in the second prototype. The NAL is now building a third Saras, with a targeted 500kg weight reduction. PT3 is not expected to fly before year end, pushing Indian certification of the Saras into 2012, and any design changes resulting from the crash would delay things further. India's Comptroller and Auditor General had strongly criticized NAL's performance last year, recommending the proposed development of a 70-seat regional transport craft be reviewed in the light of the difficulties with the Saras, and limited success of NAL's first design, the Hansa trainer, only 10 of which were built. The IJT's first crash involved the canopy flying off, while the second involved a belly landing. Both had broadly brought up airframe design issues with the stress on aero structures.

Source: *Times of India*

## India developing sub-sonic 1,000-km range cruise missile 'Nirbhay': DRDO chief

India is developing a sub-sonic 1,000-km range cruise missile "Nirbhay" which can be used for a "variety of applications", a top military scientist said today. The 1000-kg "missile is getting into some shape", Dr V K Saraswat, Scientific Advisor to Defence Minister and Chief of Defence Research and Development Organisation said. He also said the flight-trial of air-to-air missile 'Astra', having a range of 45 to 100 km, is on the cards. Dr Saraswat was delivering the keynote address at a national convention on 'The Frontiers of Aeronautical Technologies', organised by the Aeronautical Society of India here. He said India's armed

forces are looking for long duration loitering missiles which can enter "enemy territory", search targets such as radars, concentration of assets and "a variety of movements of enemy", "home-on" the targets and "bang" them. "We need to develop (loitering missiles)", he said. Dr Saraswat made a strong push for deploying space-based sensors to keep tabs on "adversaries" and gather intelligence via-a-vis defence surveillance. He said space-based sensors are a must for tracking and detection of movements of enemies. Unless it have space-based sensors, India would not be able to make its ballistic missile defence system a "potent weapon", the scientist

said. India is launching a major programme for surveillance, particularly space-based, in terms of electro-optical payload and synthetic aperture radar. "So, unless we prepare ourselves for future space-based systems, security is going to be a major issue," he said.

Source: [www.defence.pk/forums/india-defence](http://www.defence.pk/forums/india-defence)

## ISRO plans joint moon mission with Nasa

Another dimension to the "moon mission" may open up as Indian Space Research Organisation (ISRO) is planning a joint mission with United States' National Aeronautics Space Administration's (Nasa) Jet Propulsion Laboratory (JPL) to collect samples from the moon. "This (project) is in the planning phase, alongside India's lunar mission programme activities centered around 'Chandrayaan II,'" ISRO Chairman Dr K Radhakrishnan told a news conference here after the successful launch of PSLV-C16 from Satish Dhawan Space Centre, 100 km North of Chennai. Nasa is planning to execute this mission in the year 2016, while the ISRO will provide the "communicating orbiter" of the project, besides chipping in with a few scientific instruments, he said. That will be called the "Moonrise Mission." Stating that the Rs 462-crore "Chandrayaan II" project activities were progressing well, Dr Radhakrishnan said as of now it is planned for 2013-14. It will be launched on board a "Geosynchronous Satellite Launch Vehicle" (GSLV). The mission orbiter and rover are the Indian components to this joint programme with Russia, he noted. To a query on ISRO's cooperation with the Russian Space Agency, Dr Radhakrishnan said various aspects in developing the indigenous cryogenic stage engine for GSLV flights and incorporating some modifications to the Russian supplied cryogenic stage are progressing. India had also signed an MoU with Russia for building "navigation receivers," he noted. These will be for augmenting satellite-based "GPS systems." The country's next communication satellite "GSAT-8," weighing 3,200 kg, is scheduled to be launched by the "Ariane rocket-5" from Korou in French Guyana on May 19, he said. With 24 transponders in the 'KU-BAND', it will substantially augment satellite-based communication facilities, including DTH (Direct to Home) services. Dr Radhakrishnan and Mr Veeraraghavan, Director of the Vikram Sarabhai Space Centre, also disclosed that the ISRO had a tight schedule this year, having lined up a series of PSLV launches. This will commence with the launch of PSLV-C17, with an application spacecraft, either by June-end or first week of July 2011, they said.

## Another project

Another important mission will be the "PSLV-C18," an Indo-French joint effort, scheduled for August this year. It will orbit the "mega tropics" satellite to study tropical weather conditions. The satellite is getting ready in Bangalore. The third critical mission, "PSLV-C19," planned from Sriharikota in the last quarter of 2011, will orbit "RISAT," a radar-imaging micro-wave remote

sensing satellite. India is foraying into "microwave remote sensing satellites," a new major area. Such satellites can even pierce cloud covers to get more accurate pictures. The ISRO chief also expressed satisfaction over having built and delivered a key communication satellite "Hilas" to a customer in the United Kingdom recently. It demonstrated India 's capabilities in building state-of-the-art-satellites. Asked about the two-member committee to go into the S-band spectrum allocation, which created a major row in the backdrop of ISRO's commercial arm, Antrix Corporation' entering into a deal with a Bangalore-based private company, Dr Radhakrishnan said the panel has submitted its report to the Centre.

The government is processing the report.

Source: [deccan herald](http://deccanherald.com)

## PSLV-C16 puts 3 satellites in orbit

SRIHARIKOTA: It was "sweet seventeen" for the Polar Satellite Launch Vehicle (PSLV), with the PSLV-C16 scoring a spectacular success by putting three satellites into orbit with precision. It was the PSLV's 17th consecutive successful mission out of the 18 launches from Sriharikota. At the end of 18 minutes of "a delightful" flawless flight, the fourth stage of the rocket shot India's Resourcesat-2 into its orbit. About 40 seconds later, the fourth stage bulleted again the Youthsat and the X-sat into their orbits. The accuracy was such that the Resourcesat-2 reached an orbit at an altitude of 822.9 km against the targeted 822 km. The mission lifted the veil of despondency that had fallen over the Indian Space Research Organisation (ISRO) after the failure of the GSLV-D3 with an indigenous cryogenic stage in April last year and of the GSLV-F06 with a Russian cryogenic engine in December. This year, the ISRO was hit by allegations over the S-band spectrum allocation to a private company. ISRO Chairman Dr K. Radhakrishnan called the mission "a grand success" because the satellites reached their orbits with great precision. It was "a global mission," he said, because the Resourcesat-2's remote-sensing images would be used by countries across the world. Director of the Liquid Propulsion Systems Centre of ISRO Mr S. Ramakrishnan described the success as "a sweet seventeen." Director of Vikram Sarabhai Space Centre in Thiruvananthapuram Mr P.S. Veeraraghavan said the mission's success had established the PSLV "as the most reliable and cost-effective rocket in the world." Everything went right with the mission, and "as far as the orbits were concerned, the satellites hit the bullseye," he added. The 54-hour countdown progressed without any hitch. At 10.12 a.m., the PSLV-C16 roared off from the first launch pad, climbing steadily. The rocket rode on towers of flame, tracing a parabolic path across a clear sky. One could see with naked eyes the separation of the first stage. The four stages and the strap-on booster motors ignited on time and fell into the Bay of Bengal. The rocket also performed "a dog-leg manoeuvre," skirting the Sri Lankan territory. Mission Director Mr P. Kunhikrishnan praised "the excellent performance" of the rocket's four stages and their sub-systems. It was "a reassurance to the nation" from the ISRO that the faith put in the space agency was justified.

Source: [The Hindu](http://TheHindu.com)

## Three satellites in good health

CHENNAI: The three satellites put in orbit on Wednesday by the Polar Satellite Launch Vehicle (PSLV-C16) are "absolutely

fine," officials of the Indian Space Research Organisation (ISRO) said.

The Resourcesat-2, the Youthsat and the X-Sat were in good health and working satisfactorily, they said.

The Resourcesat-2, an advanced remote-sensing satellite, will replace the Resourcesat-1, which was put in orbit in October 2003. The Resourcesat-2 has been fitted with three sophisticated cameras, and the first images of the earth are expected on April 28. Though the Resourcesat-1's life was five years, it was still sending pictures of the earth.

The images from the Resourcesat-2 will be useful in estimating the acreage of crops and the stress they are under, keeping a surveillance on pests, locating groundwater, identifying schools of fish in the sea, predicting the advance of glaciers, monitoring water bodies and keeping a watch on deforestation or changes in the rural and urban landscape.

They can also be used for estimating the salinity or acidic conditions of the soil owing to the excessive use of fertilizer, and for disaster management, mapping wetlands and categorising wasteland.

The Resourcesat-2 also carries a payload from Canada, which receives signals from ships and provides information about their location and speed. The estimated life of the satellite is five years, and its images will be used by more than 15 countries.

The Youthsat has three payloads — one from Moscow University and two from ISRO. Together, they will help in investigating the relationship between activities in the sun and the thermosphere-ionosphere above the earth. The X-Sat of the Nanyang Technological University of Singapore is an earth-viewing satellite.

The Resourcesat-2 is India's 18th remote-sensing satellite. A series of Indian Remote-sensing Satellites (IRS) have been put in orbit, beginning with IRS-1A in March 1988.

"The imaging systems in the IRS series have demonstrated India's technological leadership at the global level in observing the entire earth," an ISRO official said.

The nine IRS in service now are the Technology Experiment Satellite, the Resourcesat-2, the Cartosat-1, 2, 2A and 2B, the Indian Mini Satellite-1, the Radar Imaging Satellite-2 and the Oceansat-2.

*They make the IRS system the largest civilian remote-sensing satellite constellation in the world.*

*Source: The Hindu*

## **Weathering heights: FAA cockpit simulator to help airline safety**

A level 4 fixed-base flight training device developed by the Federal Aviation Administration will play a part in a National Centre for Atmospheric Research (NCAR) project to boost safety for transoceanic flights. The FAA contribution - primarily geared towards next-generation air transport system (NextGen) studies later this year - is under the banner of "weather technology in the cockpit" and is intended to determine the most cost-effective and usable methods of bringing satellite-linked severe weather data to airline pilots in remote ocean regions. Although NCAR has been studying and testing methods of getting satellite-based strategic weather data to pilots since 2000, the June 2009 crash of Air France flight 447 over the South Atlantic on a flight from Brazil to Paris added urgency to the need for a solution.

*Source: Flight International*

## **Wind turbine makers face challenge of balancing costs, higher output**

In India, "bigger is not always better" for wind energy generator manufacturers who should focus on productivity and low cost per kWh, according to Mr Ramesh Kymal, Managing Director, Gamesa. With an addition of 2,300 MW of wind energy generation in 2010-11 taking the total capacity to about 13,000 MW, India last year came third globally in new capacity additions and continues among the top five in installed capacity. This highlights the importance of India as a market and the increasing significance of emerging economies to the wind energy sector. Manufacturers have to gear themselves to the needs of the new market environment in India, Africa and the Asia-Pacific. Also, the growth of independent power producers in wind energy has given an added push to achieving great

Manufacture of large components such as towers and blades need to be indigenised to bring down transportation and logistics costs which now account for about 4-6 per cent of

the cost and import duties add 12-15 per cent. Smaller components, particularly forgings and castings can be imported from China, Vietnam or Korea, he says. On the reasons for wind energy investment cost stagnating around Rs 6 crore a MW despite global manufacturers setting up operations in India, Mr Kymal said that it was due to the additional costs being incurred as a part of turnkey projects which includes cost of land and evacuation infrastructure. The electricity utilities no longer provide the support infrastructure but expect the wind energy generating companies invest in sub-stations and transmission lines. For instance, the Tamil Nadu Electricity Board earlier charged about Rs 25 lakh a MW for the facility but now investors have to set these up themselves at a cost of about Rs 60-70 lakh. Mr Klaus Rave, Chairman, Global Wind Energy Council, said India needs to combine its expertise in information technology with engineering to develop smart grids to address grid infrastructure constraints. The growth markets had shifted from the West to Asia and the

South-East and technology has to diversify and adapt to local conditions and economies. Mr T. Shivaraman, Director, Leitner Shriram Manufacturing Ltd, said "efficient delivery of kWh" is the prime need. As IPPs enter the market, wind energy generator manufacturers are dealing with customers looking at wind as a standalone business. Projects will be larger and this will call for strong grid infrastructure in wind zone. Mr Tulsi Tanti, Chairman and Managing Director, Suzlon, who launched two new turbines developed specifically for low wind regimes, at a recent conference and exhibition on wind energy, said the emerging markets such as India, China, Brazil and South Africa will increasingly contribute to the growth of wind energy. Suzlon has developed the 2-MW turbines with large diameters of 95 m and 97 m for low wind regimes, grid compliance in these markets and keeping in mind the cost concerns in the market.

Source: *thehindubusinessline*

## AI to hive off MRO business this year

Air India (AI) will spin off its maintenance, repair and overhaul (MRO) division into a separate company in the current financial year, coinciding with the centenary year of civil aviation in the country. Mr Arvind Jadhav, chairman and managing director of the airline, said, "This is a very appropriate time (for the MRO hive-off). AI has a world-class testing laboratory, which is not marketed well. Once our MRO is hived off as a separate company, it will have the capabilities to service 300 aircraft every year." AI kicked off celebrations marking the centenary year of Indian civil aviation on February 18, which will go on till February 18 of 2012. It was on that day in 1911 that the first commercial plane flew in India between Allahabad and Naini. Today, India is the ninth largest civil aviation market in the world.

Source: *Financial Express*

## Defence offset policy to be changed

With the government seeking revised offset proposals from the six contenders for the medium multi-role combat aircraft (MMRCA) deal by April 15, 2011, a comprehensive defence offset policy is in the offing and is likely to be released early next month. "The new policy will seek to do away with any ambiguity currently there," say defence ministry sources. The detailed policy is expected to concretise the opening of the civil aviation and internal security in more certain terms, so that there will be no room for confusion, added sources. The defence offsets policy is likely to bring in \$10 billion during the 11th Five-Year Plan period (2007-11).

Source: *Financial Express*

## DRDO to create special fund for industry

In a bid to give a boost to domestic industry in developing key products indigenously, the Defence Research and Development Organisation (DRDO) has decided to create a micro fund, according to its Director General, Dr V.K. Saraswat. Though a specific corpus has not been created, the objective of the fund was to provide financial support to the industry in key areas to indigenously develop systems that meet the demands of the DRDO in the development of a range of large projects, he told Business Line. He identified Midhani, the defence PSU, which produces special materials as one company where the DRDO was providing funds. Similarly, an exercise would be done to identify SMEs (small and medium enterprises) and private sector companies to provide financial support.

Source: *Hindu Business Line*

## Pune students bag awards at aero design contest in US

Two engineering students from the Vishwakarma Institute of Technology (VIT) bagged awards at the Society of Automotive Engineers' (SAE) International's prestigious 'Aero Design West 2011' competition held in Texas, US, recently. Varun Garg, who is a third-year mechanical engineering student, and Prasha Sarwate, a final-year chemical engineering student, combined their efforts to design a remote-controlled micro aircraft that withstood almost all evaluation parameters at the contest, co-organised and hosted by military aircraft manufacturer Lockheed Martin. The team won the first prize in operational availability and third prize each in the micro category and for lifting of highest payload. University of Minnesota-Twin Cities, US and Poznan Institute of Technology, Poland, bagged the overall first and second positions, respectively.

Source: *Economic Times*

## CIAL to host air show

Keralites will have the rare chance of witnessing an air show in the Kochi International Airport premises here by the end of April as the CIAL signed an MoU with Titan Aviation, a Dubai-based Aviation company. The Titan Aviation will act as co-partner with CIAL in conducting and bringing aircrafts for the show. The MoU has been signed by Kochi Airport Director Dr ACK Nair and Mr Sajad Mohamed, CEO of Titan Aviation. The air show will help to improve the brand visibility of CIAL. To give the public a close-up view of modern executive jets and helicopters and to create awareness among the public are the main aims of the show in CIAL, managing director Dr C G Krishnadas Nair said. The air show which has designed as a static one, will have a minimum of ten business aircrafts and few helicopters from major manufacturers like Hindustan Aeronautics Ltd., BELL and Euro Copter.

Source: *Indian Express*