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International Business Times
16 Mar, 2016

Agni-I test near the Olive Ridley sea turtle nesting site criticised

Indian Strategic Forces Command Monday successfully test-fired a nuclear-capable surface-to-surface missile, Agni-I, with a striking range of 700 kms, from Abdul Kalam Island (formerly known as Wheeler Island). However, it has been heavily criticised by environmentalists, turtle researchers and forest officials, as the test was conducted near the nesting site of the Olive Ridley sea turtles at Gahirmatha, Odisha, The New Indian Express reported.

The International Union for Conservation of Nature (IUCN) Red List has classified the Olive Ridley sea turtles, which gets its name from the olive-coloured heart-shaped carapace on their shell, as "vulnerable." And, the Agni-I launch was criticised due to its timing, considering it is the mass-nesting season of Olive Ridley sea turtles.

"Two years back, the forest officials had urged the officials of Defence Research and Development Organisation (DRDO) not to test any missile from the island from Nov. 1 to May 31 but the DRDO authorities ignored the request," Dr SS Srivastava, Principal Chief Conservator of Forests (PCCF), was cited as saying by the New Indian Express.

Sudhanshu Parida, environmentalist and secretary of district unit of People for Animals, has said that such testing raises questions about the vulnerable Olive Ridley sea turtles turning up at Gahirmatha and also on the future of such mass nesting. He further reasoned that the turtles get distracted by bright lights and sound, and such events might affect their movement in the sea leading to disorientation of the hatchlings and adult females and this could be fatal for them.

World Wildlife Federation (WWF) India notes in its official website that the female Olive Ridley sea turtles return to the same beach from where they first hatched to lay the eggs. During the nesting season, up to 600,000 and more females emerge from the sea. The WWF India calls it "phenomenal nesting." The Odisha coast is the largest mass nesting site for the Olive Ridley.

It also said that these turtles face serious threats on not only the nesting beaches, but also their migratory route due to "human activities" that include unfriendly fishing practices, development and exploitation of nesting beaches for ports and tourist centres. International trade of Olive Ridley turtles is banned.

The Statesman
18 Mar, 2016

A show of grandeur

Goa permanent venue for defence expo, aero show?

Notwithstanding the Goa government’s claim that land was not alloted on permanent basis for the Def Expo and Aero India, papers tabled on the floor of the House here reveal that the state has already passed a resolution to give the land in Quittol (Betul) on permanent basis to host the two mega events.

“Goa government-run Industrial Development Corporation (IDC) in its 344th board meeting held on 15 July, 2015 had resolved to grant in-principle approval for allotment of 150 acres at Quittol for organising Def Expo and Aero (India) show on permanent basis,” read a letter written by IDCmanaging director S V Naik to the Department of Defence Procurement of the Defence Ministry.

State industries minister Mahadev Naik tabled these documents on the floor of the House in response to a question by Congress legislator Chandrakant Kavlekar.

Certain sections of the society are opposed to Quittol (Betul) as a permanent venue for the Def Expo and Aero India shows.

Earlier, chief minister Laxmikant Parsekar had said the land was not allowed on permanent basis to the Defence Ministry for the purpose.

Defence minister Manohar Parrikar in a letter to Parsekar had requested to allot land in Goa for the Def Expo and Aero India shows.

“Since starting of these shows, Aero India happens to be in Bengaluru and Def Expo in Pragati Maidan, New Delhi. As the shows have grown significantly in the past few years, the present venues have become relatively unviable for smooth conduct of the shows due to congestion around the venue, poor access, disturbances in functioning of Bengaluru airport etc,” Parrikar said.

“As far as venue for Def Expo is concerned Pragati Maidan is under major renovation, and therefore, perhaps would not be availablealso,” he said.

The Hindu
18 Mar, 2016

L&T targets Rs. 5,000 cr defence orders

The company expects significant growth in export orders over the coming years

Engineering and construction major Larsen and Toubro (L&T) expects its defence orders to grow to Rs.50,000 crore in the next three years.

“Over the next decade, we see a potential of nearly Rs.4.5 lakh crore worth opportunities addressable by L&T,” J. D. Patil, senior vice-president and head of Defence and Aerospace, L&T, told reporters here on Wednesday. The areas include warships, submarines, communications, artillery and missile systems.

The ‘Make in India’ initiative and thrust on indigenisation in the defence sector, have opened up new avenues for the company, he said. L&T’s defence exports are now to the tune of Rs.150 crore, he said. With the government facilitating exports, L&T expects significant growth in export orders over the coming years and the potential was high in the South East Asian region. “While we see these opportunities, we also see challenges in matching financial packages offered by competing countries and high cost of capital in India. We are talking to the government on these,” Mr. Patil said.

With growth in orders, L&T may invest between Rs.500 crore and Rs.1,000 crore in its defence manufacturing facilities over the next five years, he said. Technology and production capacities are in place to support the indigenisation plans of the Ministry of Defence, he said.

L&T’s Precision Manufacturing and Systems Complex facility in Coimbatore was commissioned in 2009-2010. The campus will get additional facilities in its defence segment. However, these are likely to happen in a few years down the line.

The Times of India
18 Mar, 2016

New defence procurement norms by Apr

The long-awaited new defence procurement procedure (DPP), which seeks to push the “Make in India“ policy as well as speed up the entire arms acquisition process, is likely to be released this month-end.

Defence ministry sources said the DPP, with the new indigenous design, development and manufacturing (IDDM) provision being made the most preferred category, is slated to be made public before the DefExpo being held in Goa from March 28 to 31.

The DPP is also supposed to have a separate chapter on “strategic partnerships“ with private sector companies, who are yet to jump into arms production in a big way India still continues to import 65% of its military requirements.

The existing system to award contracts only to the lowest bidder (L-1) will also be replaced by the new provision of “L-1, T-1“ to give additional credit score to vendors who offer better “technical“ parameters than those asked for in the tender of RFP (request for proposal).

Business Standard
18 Mar, 2016

Look beyond offset policy, firms tell govt

Global manufacturers lay stress on R&D to develop aerospace manufacturing sector

The government should think beyond the offset policy to make the country a part of the global aviation manufacturing chain, said people heading Indian operations of international aerospace manufacturing firms.

According to them, the government should think of synergising the civil and defence aviation sectors, focus on research and development, introduce a programme to improve capabilities and forge partnerships between private and public sector companies.

These views were shared at a discussion on aviation manufacturing at the ‘India Aviation 2016’ on Thursday.

Under the government’s current offset policy, foreign companies that bag major defence contracts have to spend at least 30 per cent of the contract value in India through local sourcing. Several aerospace companies have established joint ventures with Indian counterparts to make some parts used in the products that they are going to sell to the Indian defence forces.

“People often ask me: ‘What are you doing over the offsets?’ I say that’s a wrong problem to solve. We make sure our Indian partners are globally competitive in quality, delivery and cost, to be able to embed themselves in the global supply chains, the way we did in Japan and Korea,” said Pratyush Kumar, president, Boeing India.

Citing the first titanium forging done recently by Bharat Forge for the company, Kumar said Boeing intends to deepen the partnerships to take India to the level of Japan and Korea. “The government should take steps towards making the local aerospace industry globally competitive.”

Pratt and Whitney India Manager and Managing Director Palash Roy Choudhury said the R&D and technology development in aerospace has been happening only in the public sector and the government needs to take private sector players on board as they look to quickly commercialise the innovations.

To bring technology and more manufacturing into the aerospace sector, the government also has to raise the FDI limit beyond 50 per cent, said Roy Choudhury.

The inter-operability between Directorate General of Civil Aviation and the regulators of various countries will also be required to make the quality certifications universally acceptable with regard to local manufacturing, he said.

Textron India Private Limited Managing Director Inderjit Sial said the issue of raw materials has been a major challenge in India.

“It is not about the technology. Most of our new technologies are being developed in India,” he said.

Textron is planning to increase the production of BEL 407 helicopter cabins to 10 per month from four at

present, but Sial said he was not certain when achieve this target would be achieved because of reasons like non-availability of quality raw materials like titanium and composites.

Rajesh Chaubey of Honeywell India said there were significant gaps in the Indian aerospace manufacturing and to overcome these issues, India should focus on developing strong design and development capabilities in the country.

“If you develop the design and development capabilities, it goes without saying that the products designed here would also be manufactured locally,” he said.

According to Ashish Saraf, vice-president, industry development and strategic partnerships, Airbus India, the country currently lacks engineering talent in core areas of manufacturing like thermodynamics and was available mostly in the support services.

This has to be changed by way of creating specialised institutes, he said. With aerospace being a capital intensive industry the creation of common facilities would help develop the necessary ecosystem to support the growth of industry and Airbus too is planning to participate in such endeavours, according to him.

He also suggested the government to create an aerospace fund to help start-ups to grow in this sector.

Deccan Herald
18 Mar, 2016

Pawan Hans Ltd, HAL ink deal to set up service facility

Hyderabad: Pawan Hans Ltd (PHL) and Hindustan Aeronautics Ltd (HAL) have inked a deal here on Thursday at India Aviation 2016 to set up helicopter MRO (Maintenance, Repair and Overhaul) facility for defence and civil helicopters. Proposed to be set up at Delhi's Rohini Heliport, the facility is expected to be operational by June 2016.

"PHL and HAL are collaborating to set up the MRO business for defence and civil helicopter industry with the potential to provide efficient, cost effective, better turnaround time for the customers," PHL said in a statement. Top officials of the companies signed the MoU in the presence of Civil Aviation Minister Ashok Gajapati Raju and Civil Aviation Secretary R N Choubey and both the Chairmen of HAL and Pawan Hans.

Fleet size of helicopters in India's Civil segment is estimated to grow up to 800 from 280 in the next 10-15 years. The estimates made by global agencies suggest that the growth would come on two counts- fleet expansion and replacing aging machines. Defence helicopters in India segment is rapidly growing. Currently there are approximately 1200 helicopters with defence Customers, while 800-1000 new helicopters are required in the next decade.

The government's new Draft Civil Aviation Policy gives the required and emphatic boost to the MRO sector with proposed reforms in MRO taxation, duties, procedures etc. These should result in re-bounce of Indian MRO industry with performance and expansion, the statement said. The prospect for Helicopter MRO market is encouraging given the number of Helicopters expected to be active over the next ten years and beyond. Besides, there is growing demand in defence and domestic civil segments with the potential to expand the business beyond Indian borders.

With about 50 multi-disciplinary helicopters, PHL, A Mini Ratna PSE under the Civil Aviation Ministry, provides helicopter transport services to Oil & Gas exploration, Hilly and Terrain services and charter to promote Heli tourism.

The Asian Age
18 Mar, 2016

Pakistan says no PLA in PoK

Pakistan said on Thursday that there was no presence of the Chinese People's Liberation Army in Pakistan-occupied Kash-mir. At his weekly press briefing here, foreign office spokesperson Nafees Zakaria said the reports in this regard were just rumours. He said the Kashmir issue must be resolved between Pakistan and India, adding it was a longstanding item on the agenda of the United Nations.

"There are several UNSC resolutions on the issue which accept the right of self-determination of the Kashmir people under the auspices of the United Nations," he said. The spokesperson said several Indian writers and intellectuals had also expressed similar views about the disputed nature of Jammu and Kashmir territory and the "blatant human rights violations by the Indian troops in Kashmir".

His comments came amid the SAARC inter-summit ministerial meeting held in Pokhara, Nepal, from 14-17 March 2016. Prime Minister Nawaz Sharif's advisor on foreign affairs, Sartaj Aziz, led the Pakistan delegation to attend the meeting. On the sidelines, Mr Aziz held meetings with his counterparts from the SAARC member states — Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal and Sri Lanka — to present formal invitation letters from the Pakistan Prime Minister to their heads of state/government for the 19th SAARC summit to be held in Islamabad in 2016.

Mr Zakaria said Pakistan was the biggest victim of terrorism and there is national consensus to root out this menace without any distinction. He said efforts were on to arrange direct talks between the Afghan government and the Taliban to achieve the objectives of peace and stability in the region. Mr Zakaria pointed out that the Quadrilateral Coordination Group involving Pakistan, Afghanistan, China and the United States were making efforts in their domain to bring the two sides to the negotiating table. He said Pakistan believed in an Afghan-owned and Afghan-led peace process that is indispensable for peace and stability in the region.

The Statesman
18 Mar, 2016

China Building Tsunami Alert Centre in SCS

China is building a tsunami alert centre in South China Sea, a senior official here has said and underlined that the facility in the disputed region has been approved by the UN.

The facility is being constructed in the South China Sea, Wang Hong, chief of the State Oceanic Administration, told reporters on the sidelines of the closing ceremony of the annual legislative session yesterday. "In fact, it has begun operations and has already issued tsunami alerts to the international community, including neighbouring countries in the South China Sea," Wang was quoted as saying by the state-run Global Times.

He said the project has received United Nations approval. This is the latest announcement on facilities China is constructing in the disputed South China Sea, though Wang did not reveal the specific location of the facility. China defends facilities in the South China Sea like a light house saying that it will benefit all the countries in the region while critics say it is an attempt by Beijing to solidify its presence in disputed islands and reefs with permanent structures.

Officials of South China's Hainan Province also announced that the province is building piers and restoring the ecological environment on the the Paracel islands which China calls as Xisha Islands.

The Statesman
18 Mar, 2016

Obama puts seal on North Korea defiance curbs

US President Barack Obama today signed an order implementing UN-backed sanctions on North Korea after a nuclear test and missile launch this year, as Pyongyang promised reprisals.

The White House said Obama had signed an executive order targeting the volatile hermit state's energy, financial and shipping assets. The measures were agreed to at the United Nations in response to the January 6 nuclear test and February 7 ballistic missile launch.

"The order is not targeted at the people of North Korea, but rather is aimed at the government," said the document signed by Obama. Among the entities targeted are the "Propaganda and Agitation Department" of the Workers' Party of Korea and mining firms that provide the regime with much-needed revenues.

The US Treasury Department estimates that coal revenues alone generate over USD 1 billion a year for the government of Kim Jong-Un.

In response to the UN sanctions and a US-South Korean drill, Kim has already ordered an upcoming nuclear warhead test and multiple ballistic missile launches.US officials say the threats are concerning, but fit a pattern of sabre rattling by the regime. Analysts and diplomats have said that loopholes in the UN sanctions leave room for China, Pyongyang's key economic supporter, to continue business as usual.

In 2014, China accounted for more than 90 per cent of North Korea's USD 7.61 billion in total trade, according to the latest available figures from South Korea's state-run Korea Trade-Investment Promotion Agency. In response to Obama's executive order, Beijing said today that it "opposes any country's unilateral sanctions.""We have stressed that the unilateral actions taken by any country must not undermine the lawful rights and interests of China," foreign ministry spokesman Lu Kang told a regular briefing.

North Korea yesterday jailed a 21-year-old American student, Otto Warmbier and was sentenced to 15 years' hard labor for stealing a propaganda banner from a hotel. White House spokesman Josh Earnest accused Pyongyang of using US citizens as "pawns to pursue a political agenda" and called for his release.

"We strongly encourage the North Korean government to pardon him and grant him special amnesty and immediate release," Earnest said."The allegations for which this individual was arrested and imprisoned would not give rise to arrest or imprisonment in US or in just about any other country in the world."

The Asian Age
18 Mar, 2016

China 'man-made' sun produces longest pulse at 50 million degrees

In a breakthrough, a "man-made" sun experiment in China has successfully produced long pulse plasma discharge at a temperature of more than 50 million degrees, the longest discharge at such a high temperature.

The Experimental Advanced Superconducting Tokamak (EAST), an artificial sun experiment developed by Hefei Institute of Physical Science of the Chinese Academy of Science, realised a ultra-high temperature (UHT) long pulse plasma discharge for 102 seconds as of January.

"An artificial sun can provide limitless clean energy through controlled thermonuclear fusion," Xu Jiannan, from the China Academy of Engineering Physics, told People's Daily Online.

The light and heat of the Sun come from two of hydrogen’s radioactove isotopes, deuterium and tritium. These release a huge amount of energy during the process of fusion into a helium atom. The artificial sun imitates this fusion process.

Deccan Herald
18 Mar, 2016

Nasa to test fire in space by burning craft

»Nasa said it will test the effects of a large fire in space by setting off a blaze inside an orbiting unmanned spacecraft, reports AFP from Washington.

Nasa has set off tiny controlled fires in space in the past, but never tested how large flames react inside a space capsule in space. This research "is crucial for the safety of current and future space missions," Gary Ruff, one of the engineers heading the experiment at the US space agency's Glenn Research Center in Cleveland, Ohio, said.

The goal is to measure the size of the flames, how quickly they spread, the heat output, and how much gas is emitted. The experiment will be conducted in an Orbital ATK Cygnus capsule after the craft ferries supplies to the International Space Station.

The Cygnus capsule is scheduled to blast off from Cape Canaveral, Florida, atop an Atlas 5 rocket on its final mission on March 23. Once the capsule undocks from the ISS and is far away from the space station, ground control will trigger the fire on board, Ruff said.

The results of this experiment, dubbed Saffire-1, will determine how much fire resistance is needed in the ultra-light material used in the spacecraft and the astronaut's gear. Temperature, oxygen and carbon dioxide sensors will record data on the fire, which is expected to last about 20 minutes, in real time. Cameras also will film the material as it burns.

The Asian Age
18 Mar, 2016

Alzheimer’s ‘lost’ memories may be recoverable

Sufferers of Alzheimer’s disease may not have “lost” their memories, but could simply have difficulty accessing them, researchers said as they unveiled a possible treatment that could one day offer a cure to the ravages of dementia.

Nobel Prize-winner Susumu Tonegawa said studies on mice showed that by stimulating specific areas of the brain with blue light, scientists could make the creatures recall thoughts that were otherwise unavailable to them. The results published on Wednesday offer some of the first evidence that Alzheimer’s disease does not destroy specific memories, but rather makes them inaccessible. “As humans and mice tend to have a common principle in terms of memory, our findings suggest that Alzheim-er’s disease patients, at least in their early stages, may also keep memories in their brains, which means there may be a possibility of a cure,” Tonegawa said. Tone-gawa’s team used mice that had been genetically modified to exhibit symptoms similar to those of humans suffering from Alzheimer’s disease. The animals were put in a box which had a low level electrical current passing through the floor — giving an unpleasant, but not dangerous, shock to their feet. An unaffected mouse that is returned to the same box 24 hours later freezes in fear, anticipating the same nasty sensation. Mice with Alzheimer’s do not, suggesting they have no recollection of the experience. But when researchers stimulated targeted areas of the animal’s brains — the “engram cells” associated with memory — using a blue light, they appeared to recall the shock.

The same result was noted even when placing the creatures in a different box during stimulation, suggesting the memory had been retained and was being reactivated.

By examining the physical structure of the mice's brains, researchers noted that those affected with Alzheimer's-like conditions had fewer "spines" — conduits through which synaptic connections are formed. Via repeated light stimulation they were able to increase the number of spines to levels indistinguishable from those in normal mice, resulting in their exhibiting the freezing behaviour seen in the original box.

"The mice's memories were retrieved through a natural cue," Tonegawa said, referring to the box that initially triggered the freezing behaviour. "This means that symptoms of Alzheimer's disease in mice were cured, at least in their early stages."

The research, carried out by the RIKEN-MIT Centre for Neural Circuit Genetics, is among the first to prove that recall, rather than memory, is the problem, Japan-based RIKEN said.

Deccan Herald
18 Mar, 2016

Fuel cell to turn urine into electricity

London, PTI: Scientists have developed a low-cost, miniature microbial fuel cell that can turn urine into electricity, an advance that could revolutionise the way bioenergy is produced, especially in developing countries. The research describes a new design of fuel cell that is smaller, cheaper and more powerful than traditional ones. Researchers from University of Bath, Queen Mary University of London and the Bristol Robotics Laboratory developed a new design of microbial fuel cell that overcomes two limitations of standard cells - their cost and low power production.

"Microbial fuel cells have real potential to produce renewable bioenergy out of waste matter like urine," said Mirella Di Lorenzo, from the University of Bath. "The world produces huge volumes of urine and if we can harness the potential power of that waste using microbial fuel cells, we could revolutionise the way we make electricity," said Di Lorenzo.

Microbial fuel cells are devices that use the natural processes of certain bacteria to turn organic matter into electricity. There are other ways of producing bioenergy, including anaerobic digestion, fermentation and gasification. However, microbial fuel cells have the advantage of working at room temperature and pressure. They are efficient, relatively cheap to run and produce less waste than the other methods, researchers said.

Microbial fuel cells can be expensive to manufacture. The electrodes are usually made of cost-effective materials, but the cathode often contains platinum to speed up the reactions that create the electricity. Also, microbial fuel cells tend to produce less power than the other methods of bioenergy production. The new miniature microbial fuel cell uses no expensive materials for the cathode; instead it is made of carbon cloth and titanium wire.

To speed up the reaction and create more power, it uses a catalyst that is made of glucose and ovalbumin, a protein found in egg white. These are typical constituents of food waste. "We aim to test and prove the use of carbon catalysts derived from various food wastes as a renewable and low-cost alternative to platinum at the cathode," said Di Lorenzo. Doubling the length of the electrodes, from 4mm to 8mm, increased the power output tenfold. By stacking up three of the miniature microbial fuel cells, the researchers were able to increase the power tenfold compared to the output of individual cells.

"Our new design is cheaper and more powerful than traditional models. Devices like this that can produce electricity from urine could make a real difference by producing sustainable energy from waste," said lead author Jon Chouler, from University of Bath.

NYOOOZ
16 Mar, 2016

Research to make Mars habitable is gathering pace

Coimbatore: Taking a cue from movies such as Interstellar and The Martian, countries across the world are researching ways to make Mars habitable, said A Sivathanu Pillai, former scientist at Defence Research and Development Organisation (DRDO). He was speaking at the launch of a new spyglass cholangioscopy at city-based VGM Hospitals. Sivathanu Pillai also referred to the recent Mars mission by Europe and Russia to probe signs of life on the planet. Pillai, now an honorary professor at the Indian Space and Research Organisation (ISRO), said science has always helped humanity grow. "Science cannot be without humanity.

Its ultimate aim should always to be help the human race," he said. Many countries, Sivathanu Pillai pointed out, were desperate to find an alternate place where humans can survive and have been investing their resources on Mars. "Mars is a lot like earth, though it has an abundance of methane and carbon dioxide. But we believe it used to be like earth," he said."The reason why we are constantly trying to find signs of life in Mars is to figure out how to save the human race if Earth suddenly goes dry," Sivathanu Pillai added. The scientist was at VGM Hospitals to launch SpyGlass DS system for cholangiopancreatoscopy. The equipment reportedly offers a high quality view of bile ducts of liver and ducts of pancreas.

The Hindustan Times
18 Mar, 2016

DEFEATING DENGUE

Volunteers let researchers in the US inject them with a dengue virus in the name of science – but an experimental dengue vaccine protected them. The trial also raises hopes of developing a vaccine for Zika soon

390 million people infected every year

120 countries affected

25,000 people die of dengue haemorrhagic fever every year

12,000+ cases in Delhi in 2015

THE EXPERIMENT

Scientists from the US National Institutes of Health gave the single-dose vaccine, called TV003, to a group of volunteers

Six months later, the volunteers were exposed to dengue-2, one of four different strains of the virus that is known to cause only mild illness

21 people given the vaccine were protected from the infection, 20 others given a placebo injection developed dengue when exposed to the virus

CREATING THE VACCINE

The vaccine was made from a mixture of four live, weakened viruses targeted at each of the four different strains

The study was done in the United States, where dengue does not circulate. This helped researchers identify the vaccine's effectiveness in people who were not previously exposed to any strain of dengue

TRIALS ACROSS THE WORLD

In February, Brazil's Butantan Institute launched a large clinical trial to confirm the effectiveness of the vaccine against naturally occurring dengue, with 17,000 people due to take part

Another trial in Bangladesh is scheduled to begin in a few months

INDIA STORY

When this dengue vaccine is licensed, two Indian companies, Serum Institute of India and Panacea Biotec Ltd, have non-exclusive rights to develop it for India, where the virus is widespread.