

समाचार पत्रों से चयित अंश Newspapers Clippings

दैनिक सामयिक अभिज्ञता सेवा
A daily Current Awareness Service

Vol. 42 No. 200 21 September 2017



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Wed, 20 Sept, 2017

(Online)

DRDO developing mine clearance system

India's Defence Research and Development Organization (DRDO) is developing a Trawl system for the clearance of mines in the battlefield, the Indian Ministry of Defence announced on 15 September.

The Trawl system, which has been designed to meet the operational requirements of Indian Army, will be used to breach land mines and create a safe lane for vehicles through a minefield in a combat zone.

The equipment consists of Trawl roller, track width mine plough and electro-magnetic device. The Trawl system is capable of breaching a variety of land mines including passive and active influence mines.

Blast trials of the system have been successfully completed, demonstrating the survivability of the equipment when subjected to a successive series of direct blasts.

The prototype is now in the final stages of development, and is expected to be ready for user evaluation trials by the Indian Army shortly.



Wed, 20 Sept, 2017

(Online)

DRDO to share food tech with entrepreneurs

Panaji: The Defence Research and Development Organization (DRDO) is set to transfer various technologies — initially developed for the armed forces — to small entrepreneurs during a two-day conclave beginning Thursday.

The defence food research laboratory (DFRL), Mysore, that has developed an array of food products and has transferred over 500 technologies to more than 300 entrepreneurs, will showcase 142 food products and processing technologies comprising ready-to-eat foods, instant foods and mixes, ready-to-drink beverages, ready-to-reconstitute beverages, and mixes ready for commercialization. The technologies on offer range from Rs 25,000 to Rs 2.5 lakh. Financial institutions will offer funding schemes, said Goa State Industries Association president Rajkumar Kamat.



Thu, 21 Sept, 2017

नौसेना ने दो पोत, एक पनडुब्बी को तैनात किया

नई दिल्ली, आइएनएस : नौसेना ने दो पोत और एक पनडुब्बी को पश्चिमी अरब सागर और दक्षिणी हिंद महासागर में तैनात किया है। पोत और पनडुब्बी के अलावा पश्चिमी नौसेना कमान के दो लंबी दूरी तक समुद्र में नजर रखने वाले विमान को भी तैनात किया गया है। लंबे समय बाद नौसेना ने किसी पनडुब्बी को लंबी दूरी के लिए तैनात किया है। यह तैनाती ऐसे समय में की गई है जब चीन की पनडुब्बियां हिंद महासागर की अंतरराष्ट्रीय जल सीमा में निर्बाध रूप से घूमती पाई गई हैं।

India's maritime security policy is a key driver in future: IISS

London: India is moving towards its goal of becoming a leading power in the Indian Ocean region through sponsoring security and economic agreements, a global strategic survey of 2017 by a London based think-tank found. The International Institute for Strategic Studies (IISS) focussed on India's maritime security policy, but also commented on US President Donald Trump's policy on Afghanistan and South Asia and on the narrative and impact of the China-Pakistan Economic Corridor in the survey released on Wednesday.

On India's proactive maritime policy in the region, Rahul Roy-Chaudhury, senior fellow for South Asia at IISS, told HT: "This leverages India's new and emerging capabilities and assets in the Indian Ocean to maximise political and security dividends.

"India now seeks to challenge China's narrative in economic and infrastructure development, deepen maritime security cooperation beyond that of a 'net security provider', push for diplomatic dividends in the south western and the eastern part of the Indian Ocean, and enhance India's strategic links with the US, Japan and Australia." The survey noted that the Belt and Road Initiative was strengthening ties between Pakistan and China. Intractable problems of cross-border terrorism, as well as instability in Kashmir, continued to damage relations between New Delhi and Islamabad in 2017.



Plan to build fighter jets hits a hurdle

By Dinakar Peri

US-India Business Council reluctant to transfer technology.

A recent letter by a U.S. business body to the Defence Ministry expressing its reluctance to transfer proprietary technologies could complicate India's efforts to build a fighter jet locally with technology transfer from abroad. Both the competing aircraft have significant U.S. components.

This is a test for the ambitious new Strategic Partnership (SP) model for promoting domestic defence manufacturing under which multi-billion dollar deals are about to be initiated.

The letter was written early last month by the US-India Business Council (USIBC) to then Defence Minister Arun Jaitley in which the companies raised the issue of having control over proprietary technologies.

"Without real technology transfer, the whole idea of SP will fall apart. We will once again be doing assembling as has been happening for the last four decades," one industry official said.

In the next couple of months, the Air Force is expected to initiate the process to select a single engine fighter jet under the SP model which will be built in India with significant technology transfer. The deal for over a 100 jets is estimated to cost over ₹60,000 crore by present projection, but the final order could end up at around 200 jets.

Twin contenders - The contenders in the race are Lockheed Martin with its F-16 and Sweden's SAAB with its Gripen. While the F-16 is a U.S. military platform, the Gripen is powered by engines built by General Electric of the US. In addition, the same engines have been selected to power the indigenously developed Tejas Light Combat Aircraft, 123 of which have been already ordered by the IAF. While SAAB has assured

full transfer of technology, it would still require U.S. government clearance for transferring specific components.



Thu, 21 Sept, 2017

Why Army canteens are running dry

By Yeshika Budhwar

Personnel, Veterans Slam New System That Ignores 'Floating Populations'

Army canteens have been facing a severe stock crunch in the past two months due to a change in the stock procurement system, which has drastically reduced the estimated number of customers. This in turn has led to inconvenience for serving and retired personnel, who said there was no need for the new system. According to Army officials, canteens of the Canteen Stores Department (CSD) earlier would submit estimated stock requirements based on the 'authorised strength' of personnel in their area, that is, the exact number of personnel posted in with a unit or Army formation. Under the new system, which became operational from August 1, canteens have to place estimates based on 'average strength' of a unit in an area. This does not take into account other personnel who might be in the area during that period. The effect, said officials, is that stock requested, and supplied, has declined considerably, leading to canteens going out of stock very early every month.

"In the past, if 450 personnel were posted in a regiment, then we would register a demand for that number. Now we have to send a request based on the average strength in a month, which is between 200 and 250. The new system doesn't take into account the floating population, that is, personnel in transit from or to elsewhere, due to which we often face shortage of goods," said a serving officer in charge of running a unit-run canteen (URC).

Adding to the confusion is the fact that none of the canteens can deny a customer with a 'smart card', used for shopping at these establishments. "Now we do not have enough stock, but we can't turn anyone away if they have a smart card. Since the first priority of a unit or formation is to cater to personnel posted here, veterans and personnel posted elsewhere but present here may not get to buy goods. There are other measures which can be taken to ensure more transparency in canteens, since that appears to be the whole point of this change," said the officer.



Thu, 21 Sept, 2017

India collaborating with Russia for nuclear power plant in Bangladesh

"We are collaborating with our Russian and Bangladeshi partners on establishing Rooppur Nuclear Power Plant in Bangladesh," Atomic Energy Commission chairman Sekhar Basu said at the 61st general conference of the global nuclear watchdog IAEA.

India said on Wednesday it is collaborating with Russia to build the Rooppur nuclear power plant in Bangladesh, the first initiative under an Indo-Russia deal to undertake atomic energy projects in third countries. This will also be India's first atomic energy venture abroad.

“We are collaborating with our Russian and Bangladeshi partners on establishing Rooppur Nuclear Power Plant in Bangladesh,” Atomic Energy Commission chairman Sekhar Basu said at the 61st general conference of the global nuclear watchdog International Atomic Energy Agency (IAEA).

Basu’s remarks are significant given that the Indian nuclear establishment for years has not been able to grow, internationally, due to sanctions imposed on New Delhi post the 1974 Pokhran tests.

It was, however, not clear what kind of “collaboration” India was doing since it is not a member of the Nuclear Suppliers Group— a 48 member grouping that controls the export of materials, equipment and technology that can be used to manufacture nukes.

According to the December 2014 ‘Strategic Vision for Strengthening Cooperation in Peaceful Uses of Atomic Energy’ between India and Russia, the “two sides will explore opportunities for sourcing materials, equipment and services from Indian industry for the construction of the Russian-designed nuclear power plants in third countries”.

India signed a civil nuclear cooperation deal, along with two more agreements, with Bangladesh in April under which the two sides can supply and manufacture equipment, material for the atomic power plant.

The Rooppur project, which is being built by the Russians near Dhaka, will be Bangladesh’s first atomic energy project.

After commissioning of two units, each with a capacity of 1200 MWs, Bangladesh will be the third South Asian country after India and Pakistan to harness energy from atomic fission.

The Indian government has approved construction of 10 new indigenously built nuclear power projects, Basu informed the IAEA.

“With these reactors we will now have 21 reactors under construction and 22 reactors in operation. This will increase the capacity to over 22,000 MW by the end of next decade,” he said.

To cater to the needs of the country’s expanding nuclear power programme, the Department of Atomic Energy is also stepping up exploration and mining operations for uranium production, Basu added.



Thu, 21 Sept, 2017

We won’t be the first to violate the nuclear pact, says Rouhani

‘However, Iran would respond decisively to any violation’

Iran vowed on Wednesday not to be the first nation to violate the 2015 Iran nuclear deal. U.S. President Donald Trump said he had made up his mind whether to abandon the accord but declined to disclose his decision.

Speaking at the UN General Assembly of world leaders, Iranian President Hassan Rouhani responded forcefully to Mr. Trump’s pugnacious speech on Tuesday by saying Iran would not be pushed around by a relative newcomer to the world stage. But he also said Iran desired to preserve its accord with six world powers.

“I declare before you that the Islamic Republic of Iran will not be the first country to violate the agreement,” Mr. Rouhani said, adding that Iran would respond “decisively and resolutely” to a violation by any party.

“It will be a great pity if this agreement were to be destroyed by ‘rogue’ newcomers to the world of politics,” he said in a dig at Mr. Trump, who had called Iran a “rogue” state. On Wednesday, U.S. envoy to the UN Nikki Haley said Mr. Trump’s speech signalled his unhappiness but not a decision to abandon the accord.

ईरान परमाणु समझौते पर फिर किया जाए गौर : अमेरिका

संयुक्त राष्ट्र, 20 सितंबर (एएफपी)।

अमेरिकी विदेश मंत्री रेक्स टिलरसन ने बुधवार को कहा कि उनका देश ईरान को परमाणु संधि पर दोबारा बातचीत शुरू करने के लिए मनाने की खातिर अपने सहयोगियों से सहयोग की अपेक्षा कर रहा है।

टिलरसन ने टीवी चैनल फॉक्स न्यूज से कहा, 'हमें यह मुद्दा रखने के लिए और ईरान को यह बताने के लिए अपने सहयोगियों...अपने यूरोपीय सहयोगियों और अन्य के सहयोग की जरूरत है कि इस संधि पर वाकई दोबारा गौर किया जाना चाहिए।' अमेरिका के इस 'डिप्लोमैट-इन-चीफ' ने ईरानी विदेश मंत्री मोहम्मद जावेद जरीफ और वर्ष 2015 में परमाणु समझौते पर हस्ताक्षर करने वाले पांच अन्य देशों के विदेश मंत्रियों से अपनी पहली मुलाकात की पूर्व संध्या पर यह बात कही। ये पांच अन्य देश हैं : ब्रिटेन, चीन, फ्रांस, जर्मनी और रूस।

संयुक्त राष्ट्र महासभा को दिए पहले संबोधन में अमेरिकी राष्ट्रपति डोनाल्ड ट्रंप ने संकेत दिया कि वह परमाणु संधि को निरस्त करने के लिए तैयार हैं। उन्होंने कहा कि यह संधि 'अमेरिका के लिए एक शर्मिंदगी है।' परमाणु संधि के तहत ईरान ने अपने ज्यादातर संवर्धित यूरेनियम को सरेंडर कर दिया था, एक रिएक्टर को निष्क्रिय कर दिया था और परमाणु स्थलों को संयुक्त राष्ट्र की जांच के अधीन कर दिया था। तब वाशिंगटन और यूरोप ने उस पर लगे कुछ प्रतिबंध हटा दिए थे। फ्रांसीसी विदेश मंत्री जेवाइएल ड्रायन ने इस सप्ताह प्रावधानों पर चर्चा शुरू करने का विचार रखा। ये प्रावधान वर्ष 2025 में ईरान के यूरेनियम संवर्धन से कुछ प्रतिबंध हटाने की बात करते हैं।

THE ASIAN AGE

Thu, 21 Sept, 2017

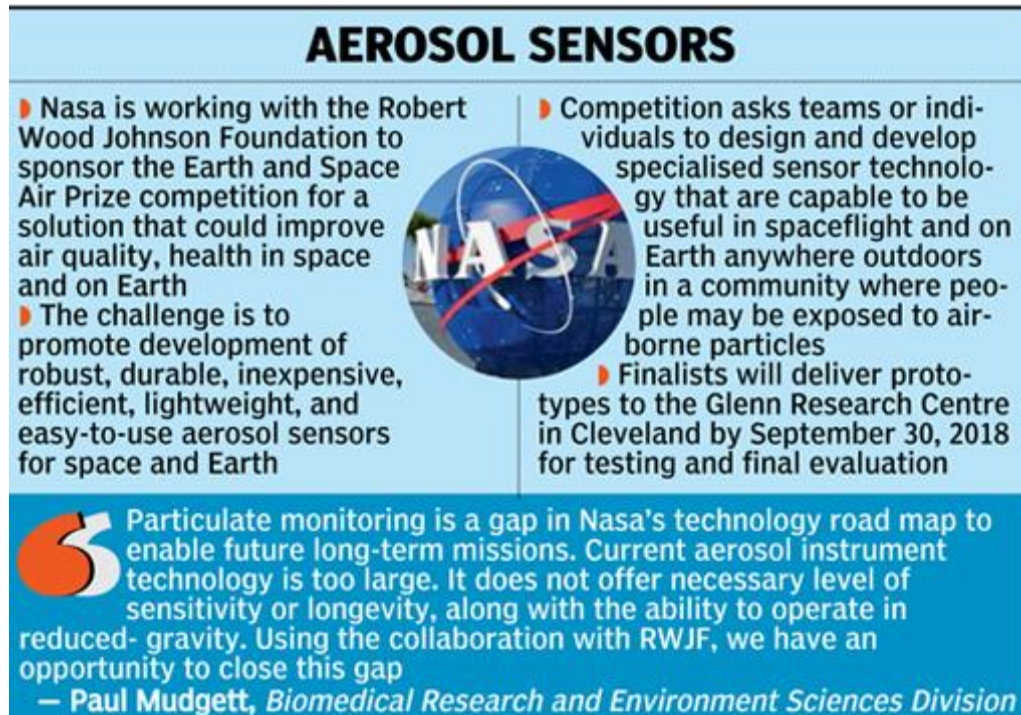
NASA offers \$100K prize

NASA has announced a USD 100,000 grand prize for designing a low-cost and lightweight aerosol sensor that can monitor air quality on Earth as well as in space environments. Breathable air is necessary to sustain humans both on Earth as well as in space. Tiny airborne particles, known as aerosols, can contribute to a variety of health problems, such as asthma and respiratory tract irritation.

To ensure the health of humans living on Earth as well as those travelling in spacecraft to explore the solar system, aerosol sensors are needed to monitor air quality and alert engineers when action is necessary. NASA is working with the Robert Wood Johnson Foundation (RWJF) to sponsor the Earth and Space Air Prize competition for a solution that could improve air quality and health in space and on Earth.

The challenge is to promote development of robust, durable, inexpensive, efficient, lightweight, and easy-to-use aerosol sensors for space and Earth environments. The competition asks teams or individuals to design and develop specialised sensor technology that has the potential to be useful in spaceflight as well as on Earth anywhere outdoors in a community where people may be exposed to airborne particles.

"Particulate monitoring is a gap in NASA's technology roadmap to enable future long-term missions. Current aerosol instrument technology is too large," said Paul Mudgett, from NASA's Biomedical Research and Environment Sciences Division. "It does not offer the necessary level of sensitivity or longevity, along with the ability to operate in reduced-gravity. Using this collaboration with RWJF, we have an incredible opportunity to close this gap," Mudgett said.



AEROSOL SENSORS

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- ▶ The challenge is to promote development of robust, durable, inexpensive, efficient, lightweight, and easy-to-use aerosol sensors for space and Earth
- ▶ Competition asks teams or individuals to design and develop specialised sensor technology that are capable to be useful in spaceflight and on Earth anywhere outdoors in a community where people may be exposed to airborne particles
- ▶ Finalists will deliver prototypes to the Glenn Research Centre in Cleveland by September 30, 2018 for testing and final evaluation

Particulate monitoring is a gap in Nasa's technology road map to enable future long-term missions. Current aerosol instrument technology is too large. It does not offer necessary level of sensitivity or longevity, along with the ability to operate in reduced-gravity. Using the collaboration with RWJF, we have an opportunity to close this gap

— Paul Mudgett, *Biomedical Research and Environment Sciences Division*

The Earth and Space Air Prize is a two-phased competition. Registration for Phase 1 is open until December 13 this year and requires submission of a sensor design by January 31, 2018. The competition will name three finalists by

the end of March 2018, and each will be awarded USD 50,000 to build a prototype. Finalists will have to deliver prototypes to the Glenn Research Center in Cleveland, Ohio, by September 30, 2018 for testing and final evaluation.

The competition will announce the USD 100,000 grand prize winner in mid-October of 2018. The competition enables NASA to advance human spaceflight and RWJF to promote solutions to support communities working to improve health while both work to develop innovative technology that can improve quality of life in space and on Earth.



Thu, 21 Sept, 2017

India joins quantum computing race

By Jacob Koshy

DST to fund development of machines that run faster than traditional computers

Keen to tap into the next big advance in computing technology, the Department of Science and Technology (DST) is planning to fund a project to develop quantum computers.

A quantum computer, still largely a theoretical entity, employs the principles of quantum mechanics to store information in 'qubits' instead of the typical 'bits' of 1 and 0. Qubits work faster because of the way such circuits are designed, and their promise is that they can do intensive number-crunching tasks much more efficiently than the fastest comparable computers.

For instance, to sort a billion numbers, a quantum computer would require 3.5 million fewer steps than a traditional machine, and would find the solution in only 31,623 steps, says a Morgan Stanley analysis last August. Solving other problems, many having to do with computing physics, becomes possible on quantum machines, the authors say, whereas they might never be possible on traditional computers.

While the Physics departments at the Indian Institute of Science, Bangalore, and the Harish Chandra Research Institute, Allahabad, have only forayed into the theoretical aspects of quantum computing, a DST official said that “the time has come to build one.”

Experts from across the country are expected to gather this month in Allahabad for a workshop to develop such a computer. Internationally, Canada’s D-Wave Systems, is a pioneer in developing quantum computers and has sold machines to Lockheed Martin and Google.

Experts, however, say that ‘true quantum computers’ are still years away, and existing systems use principles of quantum computing to solve very limited problems.



Thu, 21 Sept, 2017

‘Emotional’ robots can tell your gender

Robots are now so smart they can work out whether you’re male or female and even what your personality is like from one handshake. Researchers are developing an ‘emotional’ humanoid robot that is sensitive to human touch and can read social situations so they always come across as polite and empathetic. In addition to looking like a human, robots must also become more sociable so they can integrate into human environments, researchers say. “Giving robots a personality is the only way our relationship with artificial intelligence will survive,” said Professor Adriana Tapus from ENSTA ParisTech, Université Paris-Saclay.

“Our research will help the next generation of social robots to be polite, empathetic, and maybe have their own sense of humour”, she said. The ENSTA robots detect emotions and change their behaviour accordingly. First results show a robot is capable of inferring someone’s gender and personality in 75 per cent of cases simply by shaking hands. So, for example when they can judge a person’s handshake by the stiffness of their arm and how much they move their hand.

They can also detect gender from this, but researchers did not reveal which gender was associated with what type of handshake. Researchers have also studied emotion recognition as part of a project to help people suffering with Autistic Syndrome Disorder. “If we can simulate a human like emotional response from a robot we can ensure a two-way relationship, benefiting the most vulnerable and isolated members of our society”. Using robots could help autism sufferers become more social.

This work also means that robots have the potential to become carers for our ageing population, work with humans to complete complex tasks and intervene in situations where human contact is welcome. Earlier this week, scientists warned children could soon be ditching their human best friends to spend time with a robot instead, a scientist has warned. It comes as a survey claims a fifth of youngsters aged between five and 18-years-old say they expect to become friends with a robot in the future.

Professor Angelo Cangelosi, director of the centre for robotics and neural systems at the University of Plymouth, said it was likely that young people growing up with AI and robot technology today would develop closer relationships with them in the future. He said, “Robots of today are a fascinating preview of how we might be living our lives tomorrow. From companions capable of reading our expressions and remembering previous conversations, to domestic homehelps that can go to the shops for us, it is really just a matter of time until we see ‘deep learning’ technologies being integrated into robotics that will transform their capabilities.”