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Counter-terror, defence on Modi-Hollande talks table

India and France are expected to take forward their "special and strategic" ties covering key areas of defence and security during the visit of French President Francois Hollande, who will be the Chief Guest at the Republic Day celebrations next week. Hollande will be arriving in Chandigarh on 24 January where he is expected to be received by Prime Minister Narendra Modi. The two will hold extensive talks here a day after during which ways to strengthen counter-terror cooperation in the aftermath of Paris and Pathankot terror strikes will figure prominently. Both sides are also working hard to get the multi-billion rafale fighter jets deal inked during the visit. Hollande will be the fifth French leader to be a Chief Guest at India's Republic Day celebrations ~ the maximum number from any country so far. Earlier leaders from that country had presided in 1976, 1980, 1998 and 2008. Significantly, for the first time, French soldiers will march down the Rajpath on Republic Day along with Indian troops, a first for any foreign army. Briefing reporters on the visit, external affairs ministry spokesperson Vikas Swarup said: "Our bilateral relationship with France is very comprehensive. It covers defence, civil nuclear cooperation, railways, smart cities, science and space... In all these areas we expect some forward progress during the French President's visit." Trade is another key issue of the ties, he said. Referring to the terror attacks in Paris in November last and at the Pathankot air base earlier this month, he said cooperation between two countries on the matters of counter- terrorism has acquired a significant dimension. "We can expect a lot of discussion on the issue," he said while pointing out that both India and France have been victims of terrorism. The two sides are also working hard to seal the final contract for the 36 Rafales with the sources maintaining that discussions were held at the "highest level" on both sides to get over the roadblocks. Noting that there are strong defence ties between India and France, he said it was expected that the "special and strategic" ties will be taken forward during the visit. Significantly, France was the first country with which India established a Strategic Partnership in 1998 after New Delhi conducted nuclear tests. France is also the first country with which India entered into a civil nuclear energy cooperation in 2008 after obtaining the NSG waiver. Accompanied by a high-level delegation, Hollande will be landing in Chandigarh, which was designed by Swiss-French architect Charles- Edouard Jeanneret-Gris, also known as Le Corbusier between 1950s and 1960s, and will be accompanied by Modi during the sightseeing to most frequented tourist spots in the city including 'The Rock Garden'. The two will attend a CEO's forum before leaving for the national capital in the evening on 24 January.

The Tribune

22 January 2016

Push for Rafale deal during Hollande visit

The Rafale deal will see some forward movement during the visit of French President to India starting this Sunday. Also, France will announce a financial commitment to the 'International Solar Alliance' during the visit, as confirmed by the French Ambassador to India, François Richier. While the ambassador refused to give details on what kind of announcement one could expect with regard to the Rafale deal, he did say: 'I am confident something will be announced'. Richier also said it was a "very important negotiation taking place at the very time I am talking to you. We have made very important progress since the Prime Minister (Modi) came to France last April, and we have already reached a number of important steps". A spokesperson for the Ministry of External Affairs echoed similar sentiments and said: "I would not like to comment specifically on the Rafale deal. Negotiations are at an advance stage and basically it is for the Ministry of Defence to comment on that particular aspect." It is expected that the inter-governmental agreement (IGA) for the deal will be signed during Hollande's visit. Prime Minister Narendra Modi had announced India's decision to buy 36 Rafale jets during his visit to France last April. With respect to the 'International Solar Alliance', the French ambassador confirmed that France would be announcing a financial commitment to the project during Hollande's visit. He said the idea came from Prime Minister Modi and "it remains an Indian initiative and it has now become a joint operation and now it is to become an international operation". The MEA spokesperson, at a media briefing today, said: "This will now be taken forward with the Prime Minister and the French President inaugurating the Inter-racial Solar Alliance Secretariat at the National Institute of Solar Energy in Gurgaon, Haryana." While the French envoy confirmed that a letter has been received by the French Consulate in Bengaluru cautioning Hollande not to visit India for the coming Republic Day parade, he sought to downplay the reports. He said the letter was probably sent by "individuals who want to create a media agitation. We are looking into it but at this stage, we don't consider it a serious threat," he said.

DPP-2016 to be released next month: Parrikar

Revealing that Defence Procurement Procedure of 2016 (DPP-2016) is on track to be released in February, Defence Minister Manohar Parrikar termed it a "game-changer". "The DPP has already been approved. It is in the final stages where you have to change the appendices and annexures. Maybe next month it will be notified," Parrikar told a defence industry seminar in Delhi on Thursday. The new DPP will have overshoot Parrikar's own timeline by a year, but he ascribes that to painstaking consensus building within the ministry. The defence minister also revealed he was finalising a new, flexible policy to deal with corrupt arms vendors. "I don't call it blacklisting any more. Probably we will have the discussion today or tomorrow to finalise it. It is now being termed as 'penal provisions'," he said. This would replace automatic blacklisting, and arm the ministry with a range of instruments, including financial penalties and a formula to impose them; short-term banning from defence tenders; and, in extreme cases, long-term banning. "Punishment has to be based on the intensity of the crime, and seriousness. You cannot punish every crime with ten years sentence. Sometimes financial penalties are needed," said Parrikar. The minister provided new glimpses into DPP-2016, which he first outlined on January 11. It had promised a boost to indigenous design, and to the "Make" programme in which the government subsidises equipment development by the private and public sector. With only two "Make" projects actually awarded in the decade since the "Make" procedure was instituted, Parrikar said: "We shall be starting eight to 10 projects every year under "Make" category. These will create an eco-system in terms of vendor development." Owners of micro, small and medium enterprises (MSMEs) in the audience later told Business Standard that 8-10 projects a year were not nearly enough. Given that DPP-2016 includes a special category of "Make" projects for MSMEs, they are looking to the ministry for many more such projects. There was praise, however, for the DPP decision to allow vendors to retain the intellectual property (IP) they develop in a "Make" project, allowing them to translate that into equipment for sale in India and internationally. Parrikar addressed criticism over DPP-2016's dilution of the offset policy, which has so far imposed offsets on international defence contracts worth Rs 300 crore or more. The new policy dilutes that liability to contracts worth Rs 2,000 crore or more. "The Rs 300-crore limit was set up in 2012; the cost [of defence equipment] has also gone up. Secondly, we are piling up offsets at a huge rate. And no one gives you offsets free... You have to pay for it up-front in the [equipment] price. And the cost can be anywhere between 12-13 per cent to 17-18 per cent," said Parrikar. "Secondly, we have got a lot of offsets which have been (already) signed. \$5 billion signed, and another \$6-7 billion are in the pipeline. This itself takes it to around \$11-12 billion. I think this is enough for us to absorb over the next 8-10 years. Just piling up offsets may not be required," he continued. Parrikar also claimed that offsets would be made irrelevant by "Make in India". "If my full strategy is shifting towards producing the product in India itself, indirectly I'm asking for almost 100 per cent offsets," said the defence minister. There were few takers for this amongst Indian entrepreneurs in the audience. As several pointed out to Business Standard, well-structured offsets could benefit both the foreign vendor and Indian industry, which offers high quality, low-cost manufacture that would lower the vendors' costs. Furthermore, offsets liabilities are piling up mainly because the defence ministry has performed woefully in overseeing and enforcing the offset programme. Finally, even if a high percentage of a foreign weapon system were to be built in India, offsets could be discharged through technology transfer, skills development, and carrying out research & development in India. DPP-2016 could see changes, with Parrikar repeatedly soliciting suggestions from the environment. "No document can be perfect, and [the new DPP] is also not static. We are willing to take into consideration different viewpoints later, even after it is promulgated," he promised.

Panel to review security of military bases

Pathankot attack has raised questions on how terrorists could breach heavy security. In the aftermath of the terrorist attack on the Pathankot Air Force station, the government is setting up a committee to review security preparedness of important defence installations across the country, Defence Minister Manohar Parrikar said on Thursday. Six heavily armed terrorists from Pakistan stormed the airbase on January 2 and the ensuing encounter went on for four days before the terrorists were killed while seven soldiers lost their lives. This raised questions on how terrorists could breach such heavily guarded strategically located military bases. "A specific team is being made. Maybe in another week's time it will be active. It will visit [the bases] and look into priorities like the risk factor, sensitivity and assets. It will also talk to the local commanders," Mr. Parrikar told the media after visiting the Republic Day camp of the National Cadet Corps (NCC). In addition, he said commanding officers of all military bases had been asked to conduct a thorough security assessment and plug loopholes. Responding to a question on his earlier comment of "losing patience," Mr. Parrikar said security measures being taken could not be discussed in the open. "Losing patience does not mean that you react instinctively. It means we are increasing our pro-active strength. It cannot be discussed in public." Mr. Parrikar condemned the attack on Bacha Khan University in Charsadda, Pakistan. The attack on the university in the Khyber Pakhtunkhwa province on January 20 left at least 21 people dead and over 50 injured and was claimed by the Tehrik-e-Taliban Pakistan (TTP). "Any attack or violence on civilians should be condemned. To kill a human being in a violent way can never be justified. It is a sad thing," he said.

Production of Tejas- Mr. Parrikar said full-scale production of the indigenously developed Light Combat Aircraft (LCA) Tejas would begin next year and several countries had expressed interest in the aircraft. "As per my primary report, it is appreciated by other countries who are interested ... By next year, we are starting full-scale production," he said. The Defence Research Development Organisation, which developed the aircraft, is hoping to market the aircraft globally as Tejas made its international debut at the ongoing Bahrain International Airshow. The development of Tejas, a single engine, multi-role supersonic fighter, began in the 1980s to replace the MiG-21s in service but has been delayed due to a series of technological hurdles.

The Economic Times

22 January 2016

Infiltration: Home Ministry to Hold Meeting With BSF & Army Today

By Rahul Tripathi

HIGH ALERT BSF foils another infiltration bid in Punjab, shoots down suspected intruder. BSF deployed over 3,300-km long border; Army keeps vigil at LoC that stretches 740 km. With a sudden rise in infiltration along the India-Pakistan border, the Union home ministry has called a meeting of the Border Security Force and the Army, on Friday, to assess the security along the international border and line of control. BSF is deployed over the 3,300-km long international border, while the Army maintains vigil at LoC that stretches 740 km. On Thursday morning, the BSF foiled another infiltration bid at Punjab when a suspected intruder was shot dead near Pathankot, where the force is on high alert following the January 2 terror attack on the air force base. According to BSF sources, three suspected Pakistan nationals tried to enter India near the border outpost at Tash. While the two managed to flee, one was gunned down after an exchange of fire. The BSF later called a flag meeting with Pakistan Rangers, where the latter refused to acknowledge that the man who was killed hailed from their land. The man was around 30 and did not have anything in possession to identify him. His body was sent for postmortem. "The three came inside 50 metres and were observed by BSF constable Girdhar Gopal, who challenged them," said a senior BSF official. The BSF also launched a search to locate if there were more intruders in the vicinity but heavy fog and low visibility hampered its operation. According to security agencies, terrorists from across the border are trying to infiltrate using the porous Punjab border. The attackers of Dinanagar last July and the Pathankot air base came through Ujj, a rivulet on the border, said officials.

रक्षा खरीद नीति जल्द, निजी क्षेत्र को भी मौका

रक्षा खरीद नीति 2016 (डीपीपी) 30 दिन के अंदर जारी होगी। रक्षा मंत्री मनोहर पर्रिकर ने यहां वाणिज्य संगठन पीएचडी चैम्बर की एक बैठक में कहा कि एक दो दिन में इसे अंतिम रूप दिया जाएगा। नई रक्षा खरीद नीति प्राइवेट सेक्टर को सपोर्ट करने वाली होगी लेकिन पब्लिक सेक्टर को इससे कोई परेशानी नहीं होगी। पीएचडी चैम्बर द्वारा डिफेंस मेक इन इंडिया समिट में यहां रक्षा मंत्री ने कहा कि 2013 की डीपीपी के तहत ही पिछले 18-19 महीनों के भीतर सरकार ने 1,48,000 करोड़ रुपये के सौदे किए हैं। रक्षा मंत्री ने कहा कि डीपीपी-16 प्राइवेट सेक्टर को मदद करेगी लेकिन इसका मतलब यह नहीं कि पब्लिक सेक्टर को बराबरी का मौका नहीं मिलेगा। उन्होंने कहा कि हाल के अनुभव हमें बताते हैं कि समुचित स्वायत्तता के साथ पब्लिक सेक्टर की रक्षा कम्पनियों ने बेहतर प्रदर्शन किया है और समय की कसौटी पर खरी उतरी हैं। उन्होंने कहा कि एक महीने के भीतर डीपीपी जारी हो जाने के बाद भी यदि कोई कमी पाई गई तो इसमें सुधार की गुंजाइश रहेगी ताकि इसका लाभ भारत में निवेश करने वाली कम्पनियों को मिले। सरकार के मेक इन इंडिया कार्यक्रम में अपील की कि नई मानसिकता से काम करें ताकि स्वदेशी रक्षा उत्पादन में इजाफा हो। बाद में रक्षा मंत्री ने मीडिया के सवालों के जवाब में कहा कि देश के रक्षा प्रतिष्ठानों की सुरक्षा की समीक्षा के लिए सरकार ने एक कमेटी का गठन किया है। इसके अलावा सैन्य अड्डों के कमांडरों से हमने कहा है कि अपने अड्डे की सुरक्षा का आकलन करें।

26 के लिए एयरफोर्स ने की जबरदस्त तैयारी

गणतंत्र दिवस परेड में फ्रांस के राष्ट्रपति फ्रांस्वा ओलांद की मौजूदगी में एयरफोर्स अपनी लड़ाकू क्षमता का जबरदस्त प्रदर्शन करेगी। रिपब्लिक डे परेड को लेकर एयरफोर्स के प्रवक्ता ने बताया कि वायुसेना की फ्लाइंग पास्ट में कुल 27 फाइटर हिस्सा लेंगे जिनकी अगुवाई पारम्परिक तरीके से चार एमआई-17 हेलीकॉप्टर करेंगे जो उलटा वाई अक्षर की आकृति बनाते हुए सलामी मंच से गुजरेंगे। इस साल पहली बार सबसे आगे फ्रांसीसी आर्मी की एक टुकड़ी भी हिस्सा लेगी। परेड के दौरान फ्रांस के राष्ट्रपति मुख्य अतिथि होंगे जिनके सम्मान में फ्रांस की थलसेना को अपनी एक टुकड़ी भेजने को कहा गया था। इसके बाद तीन एमआई-35 हेलीकॉप्टर और फिर तीन सुपर हर्कुलस विमान सलामी मंच के सामने से गुजरेंगे। साथ ही सी-17 ग्लोबमास्टर और पीछे दो सुखोई-30एमकेआई विमान नीची उड़ान भरते हुए गुजरेंगे। पांच लड़ाकू जगुआर विमानों का जत्था तीर की आकृति बनाते हुए सलामी मंच के सामने से गुजरेगा।

Are These Boots Made for Walking? No, Say Armymen

By Deepshikha Hooda

TIME TO PUT YOUR FOOT DOWN - Soldiers being forced to buy their boots and uniforms as those issued to them are of poor quality; OFB inundated with complaints. Soldiers of the world's second-biggest army are being forced to buy their own boots and uniforms because those issued to them are so poor in quality. Defence ministry officials told ET that the Ordnance Factory Board (OFB), responsible for the production of boots and uniforms, has been inundated with complaints about substandard products. While the matter has been raised with the defence ministry, OFB officials are said to have been conducting surveys and inspections across units in the last few months, besides interacting with officials on the quality of products. The boots are liable to tear and the heavy sole is prone to dropping off, said a soldier who has had to buy a new pair within three months of being issued OFB footwear. As for uniforms, the biggest complaint is the quality of the material, which gets ripped and fades, adding to colour mismatches. A havildar said that this means getting pulled up at inspections and parades. Awkward sizing is another complaint, making it also almost impossible for the soldiers of the 1.2 million strong army to find the right fit. "The OFB issues uniforms and boots every 18 months, but they last only three-four months," said one of the persons cited above. "There is no option but to buy these from the market." OFB hadn't responded to queries as of press time. Army headquarters confirmed that there were flaws in the boot design. "Boot High Ankle DVS was reported to have heavy sole and a better design and lighter weight with polyurethane rubber sole for better flexibility has been identified," said an official. Approval for an open tender enquiry (OTE) has been obtained, he said. Put Out Tenders for Accessories. Armies are no longer measured by their size alone, but by their armoury - and how their soldiers are treated. Clearly, the Indian Army has been suffering on the second front. No matter how much we valorise our soldiers, if basic equipment like uniform and boots are sub-standard, there is a serious problem of morale - especially when soldiers are made to make their own purchases. If the ordnance factories can't do the job, put out tenders to get them from elsewhere.

The Economic Times

22 January 2016

To Involve Industry, Army to Share Battlefield Perspective in Workshops

By Manu Pubby

Interactions to shift to smaller towns where manufacturers and startups are located. In a first, the Army is planning to share its concept of the battlefield and warfighting with the Indian industry, hoping that the engagement will generate innovative combat solutions from the private sector. A series of workshops are planned across the nation in smaller, non-metro towns to interact with defence manufacturers to share the modernisation requirements of the Army. As part of the Make in India initiative, the armed forces have in recent months been conducting several engagements in the capital but for the first time, the interactions are set to shift to smaller towns where manufacturers, companies and startups are located. The Army, which has the largest budget among the three forces, has equipment requirements that are relatively low tech and can be sourced from Indian manufacturers more easily. While these requirements and needs have traditionally been shrouded in secrecy, plans are in place to make things more transparent to bring the industry on board. "The idea is to share how the army fights. A bottom up perspective of the battlefield will be explained to the industry. How operations are carried out along the line of control or how militants are engaged. This will enable the industry to suggest innovations for warfighting," an official involved in the process said. The concept of starting the workshops in smaller cities is also in line with the government's policy of decentralization. Sources have told ET that the workshops are likely to begin in towns like Pune, Ahmedabad, Bangalore and Lucknow. Among other initiatives that the Army is planning to promote indigenisation is the setting up of an Army Design Bureau (ADB) that would assist the industry and DRDO with weapon design and modernisation.

Armed forces barred from buying jammers

In a surprise move, the defence forces have been barred from procuring jammers under new guidelines unveiled on Thursday by the government which will now allow only states' police and jail authorities and central security agencies like IB and RAW to buy the equipment. The decision to keep the defence forces out of the list of authorised agencies is significant as questions were raised on the now-defunct Army's Technical Support Division (TSD). The TSD was set up during the tenure of the former Army chief General V K Singh, who was accused of carrying out unauthorised operations. The jammers or interceptors imported by the TSD for evaluation purpose could not be accounted for after the government decided to close down the unit. "Jammers can be procured only by states' police department and jail authorities, and central government security agencies like RAW and IB," the new policy issued by Cabinet Secretariat said. The new norms also restricts examination conducting bodies like Union Public Service and Public Service Commission from procuring jammers but allows it to deploy "low powered jammers to prevent cheating during examinations". In case of movement of VIPs guarded by Special Protection Group (SPG), all type of jammers procured by government agencies should be deployed in the vicinity, it said. The policy also bars import of jammers without getting a license from Directorate General of Foreign Trade (DGFT).

DESIDOC

The Tribune **22 January 2016**
India to jointly design aircraft carrier with foreign partner

Ajay Banerjee

As India embarks on a journey to build another seaborne aircraft carrier, it's looking at the very best in design and asked for international help in designing the 65,000-tonne warship that will be the frontline seagoing attack platform of the future. The Navy has sought collaboration from the countries that have built warships of this size. Companies in the US, Russia, the UK, France and Italy are being asked if they would be keen to join hands. All these companies have made warships of this size. "There are many issues in such warships that we don't know of. Hence, this international collaboration," sources said. A seagoing aircraft carrier has fighter jets, helicopters and UAVs on its deck to attack enemy targets and secure own interests. At present, India operates two carriers—one of British parentage and the other of Russia origin. An indigenous 40,000-tonne aircraft carrier is under construction at Cochin which was aided by a design of the Italian company Fincantieri. Targeted for completion by 2018-end, it will be the biggest warship ever built in India. The international designs are now being sought for the second indigenous aircraft carrier that will be much bigger and could even be propelled by nuclear power although other options of diesel and gas turbines are being considered. The warship will be jointly designed by the Indian Naval Design Bureau and the foreign collaborator. The Navy has set a target to decide on key elements of the next carrier by the end of 2016. India plans to have at least 80 per cent local content on the warship. To speed up the matters, the warship could be built at two separate shipyards and then assembled at one place. A few companies do have such expertise. Navy wants the carrier to be capable of speeds greater than 30 knots (56 km per hour), it wants to carry up to 35 fighter jets and 20 helicopters. It would have a catapult to launch fighter jets. A US-India working group is looking to promote cooperation in aircraft carrier technology. New Delhi and Washington have discussed the matter under the Defence Trade and Technology Initiative (DTTI).

The Times of India

22 January 2016

Pak has 110 to 130 N-warheads aimed at deterring India, says US report

The prospect of Pakistan becoming the victim or target of its own nuclear weapons meant as a deterrent against India features often in a new US Congressional report assessing the growing nuclear arsenal of an unstable country replete with extremist elements. Although Pakistan has expanded the pace and scope of its nuclear weapons programme to rack up some 110 to 130 bombs to deter India, the country's "chronic political instability" and Islamabad's military efforts against the Taliban and al-Qaida have raised concerns about the security of the country's nuclear weapons, the report observes. It speaks of fears that Pakistan's strategic nuclear assets could be obtained by terrorists or used by elements in the government, without explicitly mentioning against who it could be used. While US officials have generally expressed confidence in the security of Pakistan's nuclear weapons, the report, which is distributed to US lawmakers as a backgrounder, says the "collapse or near-collapse of the Pakistani government is probably the most likely scenario in which militants or terrorists could acquire Pakistani nuclear weapons." "What I worry about is that, in the context of broader tensions and problem within Pakistani society and polity -and that's obviously taking place as we look at the sectarian violence and tensions between the government and the military and so forth -even the best nuclear security measures might breakdown You're dealing with a country that is under tremendous stress internally and externally," the report cites Gary Samore, a former national security council coordinator for arms control and non-proliferation, as saying. The report also lays to rest Pakistan's repeated claim that it was India's nuclearisation that led to Pakistan acquiring nuclear weapons, pointing out instead to what some experts have called before: it was the loss of East Pakistan (now Bangladesh) that triggered Pakistan's January 1972 political decision (just one month later) to begin a secret nuclear weapons programme. India's 1974 nuclear test only gave additional urgency to the programme. The report also details a nuclear and missile programme developed largely through theft, stealth, and help from China, which gave Pakistan nuclear weapons design information, and North Korea which gave it ballistic missile technology. While the CRS report extensively examines Pakistan's argument that its nuclear arsenal is meant as a deterrent against India, there is only a brief reference to the growing thought in the strategic analyst community that the nuclear shield "allows Islamabad to conduct operations, such as support for low intensity conflict or proxy war in Kashmir, while effectively deterring India at the strategic level" -more bluntly referred to by some experts as nuclear blackmail. There is only a passing mention of Washington's own role in advancing Pakistan's nuclearisation through the supply of F-16 fighter aircraft, which Pakistan modified by 1995 to be able to deliver nuclear weapons, and despite which the US committed to sell a further 18 F-16s in 2006, and eight more last year. Pakistan's nuclear inventory now consists of at least 15 kinds of nuclear weapons that are most vulnerable to a heist by extremists or a rogue commander, and most likely to cause a war through miscalculation.

India suspects N-security index a ploy to reveal country's stockpile

By Indrani Bagchi

Delhi Refuses To Respond To Report - Even though India moved up two places in a somewhat controversial international ranking on nuclear security, the 2016 Nuclear Threat Initiative (NTI) security index was greeted here with derision. This biennial exercise, a joint effort between Washington-based Nuclear Threat Initiative and The Economist Intelligence Unit (EIU) comes weeks before the nuclear security summit, to be held in Washington DC in March this year. As in the past, the Indian government has refused to respond to the report officially. In the past two reports, India had featured near the bottom -this year it moved up to 21 but as the report itself states, is near the bottom in theft ranking. "India improved by participating in bilateral assistance activities with the US and putting in place the IAEA additional protocol. In the future, India's nuclear materials security conditions could be improved by strengthening laws and regulations for on-site physical protection, control and accounting, and mitigating the insider threat, and ensuring protection of materials during transport is in line with IAEA guidance." India ratified the IAEA's additional protocol in 2014, having committed to it in 2006. Indian officials take particular umbrage at the report's contention that "India's nuclear materials security conditions remain adversely affected by its continued increase in quantities of nuclear material". Indian officials say the report's description of weapons material also includes civilian material which has certainly increased in India following a number of nuclear agreements with different countries. That, they say, is no reason to conclude that more equals to less security. Officials involved in India's nuclear programme told TOI on condition of anonymity that the country has in place a robust security process, but that they would not make it public. Other countries in the same category of increased stockpiles include Japan, the Netherlands, North Korea, Pakistan, and the United Kingdom. A new law to create an autonomous regulatory body is still to be cleared by Parliament. Indian officials, who generally bristle at this report every couple of years, say this is intended to get India to "reveal" its stockpile. In recent days, another report from the US Congress saying Pakistan possesses more nuclear weapons than India is, they feel, also intended for the same purpose. That appears to be a major problem with the international NGO which has pushed for greater "openness".

The Pioneer

22 January 2016

'Pak expansion of N-arsenal hikes conflict risk with India'

A new report by the US Congressional Research Service has highlighted concerns voiced by experts that Pakistan's expansion of its nuclear arsenal on the grounds of dissuading India from taking any military action against it could actually end up increasing the risk of a nuclear conflict. "Islamabad's expansion of its nuclear arsenal, development of new types of nuclear weapons, and adoption of a doctrine called "full spectrum deterrence" have led some observers to express concern about an increased risk of nuclear conflict between Pakistan and India, which also continues to expand its nuclear arsenal," says the CRS report, prepared for members of Congress. Noting that Pakistan probably has 110-130 nuclear warheads, perhaps more, the 28-page report also casts doubts on the Pakistani assertions about their safety by pointing to the continued instability in the country. Although Pakistan says it has taken several steps to increase international confidence over its arsenal following the alarming 2004 revelations about the proliferation of nuclear material and technology by disgraced nuclear scientist AQ Khan, the CRS says the instability in the country raises questions on the extent and durability of these reforms. "Some observers fear radical takeover of the Pakistani government or diversion of material or technology by personnel within Pakistan's nuclear complex," it says, stressing: "While US and Pakistani officials continue to express confidence in controls over Pakistan's nuclear weapons, continued instability in the country could impact these safeguards." Stating that Islamabad is producing fissile material, adding to related production facilities, deploying additional nuclear weapons and new types of delivery vehicles, the report goes on to say that "continued Indian and Pakistani nuclear weapons development could jeopardize strategic stability between the two countries". Discussing US action to deal with nuclear safety in Pakistan, the report points to the Enhanced Partnership with Pakistan Act of 2009, which requires that the US President has to certify that Pakistan is "continuing to cooperate with the United States in efforts to dismantle supplier networks relating to the acquisition of nuclear weapons-related materials, such as providing relevant information from or direct access to Pakistani nationals associated with such networks".

SL hosts Indian carrier after 3 Chinese ships leave Colombo

In the ongoing strategic power-play in the Indian Ocean Region (IOR), two frontline Indian warships, including aircraft carrier INS Vikramaditya, entered Colombo just after three Chinese warships left the Sri Lankan port on Thursday. INS Vikramaditya and guided-missile destroyer INS Mysore, under the command of the western fleet commander Rear Admiral Ravneet Singh, will be docked at Colombo till Saturday to further bolster the ongoing military cooperation with the island nation. The 45,400-tonne INS Vikramaditya, or the refurbished Admiral Gorshkov inducted in November 2013 under a \$2.33 billion deal with Russia, is India's largest and most powerful ship. With the 45 MiG-29Ks ordered for another \$2 billion to operate from its deck, the carrier is also the costliest single weapon platform India has ever bought. But there is growing concern in the Indian security establishment over China's growing naval forays into the IOR, including the docking of its submarines in Colombo. India is also belatedly trying to counter China's forging of deep maritime links with Lanka and other countries like Seychelles, Mauritius, Maldives, Bangladesh and Myanmar. India, however, has also invited Chinese warships for its International Fleet Review (IFR) being held at Visakhapatnam from February 5 to 8. After their Sri Lankan visit, both INS Vikramaditya and INS Mysore will head for Vizag to take part in the IFR. Navy officials said India and Sri Lanka are "close maritime neighbours" with "strong" military and diplomatic ties.

The Hindustan Times

22 January 2016

Navy craft sinks near Chennai; fire likely cause

CHENNAI: An Indian navy craft, T 304 an FIC (fast interceptor craft), sank on Friday morning, 90 northeast of Chennai. Naval sources said the primary cause was fire and melting of a part of the hull. The crew of six are reportedly safe and there are no casualties. An inquiry has been ordered.

The Asian Age

22 January 2016

U.S. Senate delay bill on European data privacy

Legislation that would grant U.S. privacy rights to Europeans is being delayed in the U.S. Senate, which may complicate negotiations over a broader trans-Atlantic data transfer pact that faces a January deadline for completion, sources said on Wednesday. The Judicial Redress Act, which would allow citizens of European allied countries to sue over data privacy in the United States, is "likely to be held" from a scheduled vote on Thursday in the Senate Judiciary Committee, a panel aide said. Passage of the legislation is viewed as an important step toward securing a new "Safe Harbor" framework after the previous one was struck down by a top European Union court last year amid concerns about U.S. surveillance. More than 4,000 firms, including tech behemoths such as Google and IBM, have been relying on the 15-year-old Safe Harbor framework to freely transfer data between the United States and Europe, which has far stricter rules on the privacy of personal information.

US considering a truncated nuclear deal with Pakistan?

United States could apparently advocate for Pakistan's NSG membership without any congressional approval

WASHINGTON: If the Obama administration wanted to push Pakistan's case for joining the Nuclear Suppliers Group, it would not require congressional approval, according to a new US study. The study sheds new light on talk of the US considering a nuclear deal with Pakistan similar to the one it has with India, as long sought by Islamabad to ensure regional parity. "According to US law, the United States could apparently advocate for Pakistan's NSG membership without congressional approval," said a Congressional Research Service (CRS) report dated January 14. CRS produces research papers as mandated or on its own to inform and educate US lawmakers and their aides on important issues that may come up for Congress's consideration. A nuclear deal - a 123 Agreement - would have to be ratified by Congress, where Pakistan has few friends, if any. The stalled sale of F-16 jets, as first reported by HT, being a case in point. The CRS report titled "Pakistan's Nuclear Weapons" draws on publicly available documents and news reports to estimate Pakistan has between 110 and 130 nuclear warheads. The report said, citing news reports, that the US "is considering supporting Islamabad's NSG membership in exchange for Pakistani actions to reduce perceived dangers associated with the country's nuclear weapons program". The nuclear programme, it said quoting a Pakistani official, "is one dimensional: stopping Indian aggression before it happens. It is not for starting a war. It is for deterrence." But congressional sources said the report's most significant observation was that the administration needn't go to Congress if it was merely pursuing NSG membership for Pakistan. A string of US media reports indicated last October, around Prime Minister Nawaz Sharif's US visit, that a nuclear deal was being discussed by the two countries. Those reports said Washington was considering pushing Islamabad's desire for membership of the NSG, which includes 48 states that can trade nuclear materials. But those members also have to be signatories of the nuclear Non-Proliferation Treaty, which Pakistan is not, like India and Israel, which have also been shut out of the group. India's membership, pushed by the US in the aftermath and as a result of the India-US Civil Nuclear Agreement signed in 2008, is in the pipeline. The US administration has clarified on and off the record that it is not considering a 123 Agreement - or a nuclear cooperation deal - with Pakistan. "A 123 Agreement was never on the cards," a congressional source said, adding, "What the administration may have been considering was a preliminary step - NSG membership." And it was on the table in exchange for, as reported in October, Pakistan capping its nuclear arsenal, disclosing and acknowledging in the process the exact numbers. Islamabad too dismissed any talk of a nuclear deal later.

Ukrainian hacker linked to U.S. cyber security expert pleads guilty

A Ukrainian computer hacker who fought extradition to the United States and has been accused of trying to frame a prominent cyber security expert pleaded guilty on Wednesday to using more than 13,000 computers to steal log-in and credit card data, federal prosecutors said. Sergey Vovnenko, 29, whose aliases included "Flycracker," "Centurion" and "Darklife," pleaded guilty to charges of aggravated identity theft and conspiracy to commit wire fraud, according to U.S. Attorney Paul Fishman in New Jersey. Vovnenko, of Naples, Italy, faces a mandatory minimum two-year prison term for identity theft and may face additional prison time, plus a fine for conspiracy, at his May 2 sentencing. The defendant entered his plea before U.S. District Judge Esther Salas in Newark, New Jersey. Timothy Anderson, a lawyer for Vovnenko, was not immediately available to comment. U.S. prosecutors said that from September 2010 to August 2012, Vovnenko was part of an international conspiracy to hack into computers belonging to individuals and companies, steal user names and passwords for bank accounts and other online services and steal debit and credit card numbers. They said Vovnenko admitted to operating a "botnet" of more than 13,000 computers infected with malware to gain unauthorized access and used "Zeus" malware to steal banking information from and record keystrokes of people using infected computers. Vovnenko fought extradition after he was detained by Italian authorities following his June 13, 2014 arrest, U.S. prosecutors said. The defendant made his initial U.S. court appearance on October 13, 2015. At the time of the extradition, Brian Krebs, who runs the cybersecurity blog Krebs on Security, wrote that Vovnenko had been behind a 2013 plot to have heroin sent to Krebs' Virginia home, and then tell police when the drugs arrived.

Xi's new model army

Xi Jinping reforms China's armed forces-to his own advantage. CHINA'S biggest military shake-up in a generation began with a deliberate echo of Mao Zedong. Late in 2014 President Xi Jinping went to Gutian, a small town in the south where, 85 years before, Mao had first laid down the doctrine that the People's Liberation Army (PLA) is the armed force not of the government or the country but of the Communist Party. Mr Xi stressed the same law to the assembled brass: the PLA is still the party's army; it must uphold its "revolutionary traditions" and maintain absolute loyalty to its political masters. His words were a prelude to sweeping reforms in the PLA that have unfolded in the past month, touching almost every military institution. The aim of these changes is twofold-to strengthen Mr Xi's grip on the 2.3m-strong armed forces, which are embarrassingly corrupt at the highest level, and to make the PLA a more effective fighting force, with a leadership structure capable of breaking down the barriers between rival commands that have long hampered its modernisation efforts. It has taken a long time since the meeting in Gutian for these reforms to unfold; but that reflects both their importance and their difficulty. The PLA itself has long admitted that it is lagging behind. It may have plenty of new weapons-it has just started to build a second aircraft-carrier, for instance-but it is failing to make effective use of them because of outdated systems of command and control. Before any substantial change in this area, however, Mr Xi felt it necessary to strengthen the party's control over the PLA, lest it resist his reforms and sink back into a morass of money-grubbing. The reforms therefore begin with the main instrument of party control, the Central Military Commission (CMC), which is chaired by Mr Xi. On January 11th the CMC announced that the PLA's four headquarters- the organisations responsible for recruiting troops, procuring weapons, providing logistics and ensuring political supervision-had been split up, slimmed down and absorbed into the commission. Once these were among the most powerful organisations in the PLA, operating almost as separate fiefs. Now they have become CMC departments. Power to the party. The political headquarters was the body through which the party kept an eye on the ranks and ensured they were up to speed on Maoist texts and the party's latest demands. The loss of its autonomous status may suggest that the party's role is being downgraded. Far from it. Now the party's CMC (there is also a state one, which exists only in name) will be better able to keep watch. The body's 15 new departments will include not only departments for politics but also for logistics, personnel management and fighting corruption. Mr Xi has already turned his guns on graft, imprisoning dozens of generals. The second reform has been to put the various services on a more equal footing. The land forces have hitherto reigned supreme. That may have been fine when the PLA's main job was to defend the country against an invasion across its land borders (until the 1980s the Soviet Union was considered the biggest threat). But now China has military ambitions in the South China Sea and beyond, and wants the ability to challenge American naval and air power in the western Pacific. A recent editorial in the Liberation Army Daily, a PLA mouthpiece, berated the armed forces for their "army-centric mindset". In addition to those for the navy and air force, a separate command has now been created for the army, which had previously run everything. On December 31st the CMC also announced the formation of a command responsible for space and cyberwarfare, as well as one for ballistic and cruise missiles (previously known as the Second Artillery Force, part of the army). There is also a new joint command with overall control of the various services, a little like America's joint chiefs of staff. Big changes are also afoot in regional command structures. China used to be divided into seven military regions. These were powerful and relatively self-contained; sharing or swapping troops and equipment was rare. Now, according to reports in the South China Morning Post, a newspaper in Hong Kong, the number will be reduced to five. Troops will be recruited and trained by the various services before regional deployment. This will ensure greater central control over the regions. China has been talking about military reform for decades, but change has been glacial. Opposition within the armed forces has been intense. "If [reform] is not done properly," wrote Sun Kejia and Han Xiao of the PLA National Defence University last month, "it could affect the stability of the armed forces or even all of society." (The article was promptly removed from the Liberation Army Daily website.) Demobbed soldiers could make trouble-Mr Xi wants the number of troops to be cut by 300,000. State firms have been ordered to reserve 5% of jobs for laid-off veterans. The recent reforms are more extensive than most Western observers had expected after the Gutian conference. But even so, they are incomplete. The army still holds sway over some appointments (all five chiefs of the new regional commands are army generals, for instance). The PLA has traditionally given higher status to combat units than to those providing communications, logistics, transport and the like, a misplaced emphasis in an age when information and communications are crucial in warfare. The reforms do little to correct that bias. Moreover, many details about them remain unclear. No one knows, for example, where the troop cuts will come from or what units will go into the new space and cyberwarfare command. The first result of the reforms¹¹ is likely to be confusion in the ranks, until the new system settles down. Dennis Blasko, an American observer of the PLA, says no one can be sure of the results until they are tested in battle. Amid the murk, only one man clearly seems to have got his way: Mr Xi.

Cybercriminals impersonate income-tax officers

Cybercriminals are targeting India, the US and other countries with fraudulent "tax deduction" emails to steal information, security software firm Symantec said. "During the last three months, Symantec has observed malicious emails claiming to be from India's income-tax department. The report shows 43 per cent of these scam emails were delivered in India, followed by the US (20 per cent), and the UK (14 per cent)," Symantec senior security response manager Satnam Narang said. He added that there have been at least two types of emails in circulation - one that claims that thousands of rupees have been deducted from the recipient's bank account as a tax payment and the other copies the template of an actual intimation sent by the I-T department. Mr Narang said the activity could grow further towards the closing of the financial year as people file their income and other taxes. "While each email differs in its template, the goal is the same: to infect computers with an information-stealing Trojan that logs keystrokes. It also collects system information like titles of open windows and the operating system version that is sent back to attacker command and control server," he said. The mails stating that money has been deducted contain an attached file that claim to be a receipt for the payment. The alleged receipts are ZIP files that contain information-stealing malware that Symantec detects as Infostealer.Donx, he said. On the other hand, the authentic looking mail with the Personal Account Number (PAN) (used to identify taxpayers in India) contains an attached ZIP file that is not password-protected. "Contrary to what the email claims, the ZIP file does not contain a PDF. Instead, it contains another information-stealing Trojan that Symantec detects as Trojan.Gen," Narang said. He added that the attackers spoof the domain for email addresses belonging to the income-tax department of India in an effort to make the emails look more convincing.

Deccan Herald

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Microsoft India to focus on machine learning and advanced analytics

N V Vijayakumar

Bengaluru, dhns: Betting big on advanced analytics and machine learning on its Azure cloud, Microsoft is planning to ramp up its market reach through its existing clients across verticals and government initiatives in India. According to Microsoft Bing Search and Advertisement India and R&D General Manager Russ Arun, with the emergence of a powerful distributed computing environment and on-demand cloud infrastructure, computing today is increasingly becoming affordable, scalable, and accessible. "Big data analytics, coupled with machine-learning algorithms, holds immense potential in terms of driving fundamental changes in critical areas like education and health. To that extent, advances in computing can help governments and society create relevant interventions in pressing issues," Arun said. "It is our next frontier, but we are in a nascent stage. We are working with multiple academies in the country and are organising hackathons to initiate the process of building the ecosystem for the country," he said. Microsoft recently proved its talent in this space by predicting that NCAA basketball team will win the tournament. In India, it helped the Andhra Pradesh government and LV Prasad Eye Institute (LVPEI). "Microsoft is working with over 10,000 schools to help predict dropouts. So far, more than six lakh predictions for post-grade Xth students have been generated from this initiative, using our advanced analytics and machine learning platform," Arun said. He said that the Microsoft platform engaged with LVPEI to derive insights from clinical data and tackle eye diseases more effectively. "Using Azure, we collected insights from millions of clinical data points from over 120 centres on patients suffering from eye diseases and mapped geographies where these occur. In a successful pilot, a team of LVPEI doctors worked closely with data scientists to build predictive models using cloud-based machine-learning," he said. Besides its intelligent personal assistant Cortana, Microsoft is using advanced analytics and machine-learning in its consumer facing products and search. Microsoft recently acquired Revolution Analytics, an advanced-analytics platform based on the open source R programming language.

Davos bosses brace for big technology shocks

BY BEN HIRSCHLER

Implantable mobile phones. 3D-printed organs for transplant. Clothes and reading-glasses connected to the Internet. Such things may be science fiction today but they will be scientific fact by 2025 as the world enters an era of advanced robotics, artificial intelligence and gene editing, according to executives surveyed by the World Economic Forum (WEF). Nearly half of those questioned also expect an artificial intelligence machine to be sitting on a corporate board of directors within the next decade. Welcome to the next industrial revolution. After steam, mass production and information technology, the so-called "fourth industrial revolution" will bring ever faster cycles of innovation, posing huge challenges to companies, workers, governments and societies alike. The promise is cheaper goods and services, driving a new wave of economic growth. The threat is mass unemployment and a further breakdown of already strained trust between corporations and populations. "There is an economic surplus that is going to be created as a result of this fourth industrial revolution," Satya Nadella, chief executive of Microsoft (MSFT.O), told the WEF's annual meeting in Davos on Wednesday. "The question is how evenly will it be spread between countries, between people in different economic strata and also different parts of the economy." Robots are already on the march, moving from factories into homes, hospitals, shops, restaurants and even war zones, while advances in areas like artificial neural networks are starting to blur the barriers between man and machine. One of the most in-demand participants in Davos this year is not a central banker, CEO or politician but a prize-winning South Korean robot called HUBO, which is strutting its stuff amid a crowd of smartphone-clicking delegates. But there are deep worries, as well as awe, at what technology can do. A new report from UBS (UBSG.VX) released in Davos predicts that extreme levels of automation and connectivity will worsen already deepening inequalities by widening the wealth gap between developed and developing economies. "The fourth industrial revolution has potentially inverted the competitive advantage that emerging markets have had in the form of low-cost labor," said Lutfey Siddiqi, global head of emerging markets for FX, rates and credit at UBS. "It is likely, I would think, that it will exacerbate inequality if policy measures are not taken." An analysis of major economies by the Swiss bank concludes that Switzerland is the country best-placed to adapt to the new robot world, while Argentina ranks bottom.

WINNERS AND LOSERS - There will be winners and losers among companies, too, as new players move into established industries with disruptive new technologies. That is something uppermost in the minds of Davos attendees such as General Motors (GM.N) CEO Mary Barra, who is confronting the threat of driverless cars - another science fiction that has become science fact - or bank boss Jamie Dimon at JPMorgan Chase (JPM.N), facing competition from digital "fintech" start-ups. Such innovations, coupled with the rise of robots in both the manufacturing and service sectors, could automate vast numbers of jobs. Oxford University researchers predicted in 2013, for example, that 47 percent of U.S. jobs were at risk. Such fears about technology destroying jobs are not new. The economist John Maynard Keynes famously cried wolf in 1931, by issuing a warning of widespread "technological unemployment". The question is whether this time will be different, given the speed to change and the fact that machines now offer brain as well as brawn, threatening professions previously seen as immune, such as entry-level journalism or routine financial analysis. Pessimists fear this will hollow out middle-income, middle-class jobs on an unprecedented scale, with the WEF itself predicting that more than 5 million jobs could be lost in 15 major economies by 2020. But ManpowerGroup (MAN.N) CEO Jonas Prising is more upbeat for the long term. "If history is any indicator, we'll have more jobs being created in the end than are going to be destroyed," he said. However, beyond the Davos talking-shop there are doubts about how well business leaders will actually plan for the future. "When you have these very big levels of disruptive change you need some pretty serious thinking and action," said Ian Goldin, professor of globalization and development at Oxford University. "But the CEO who really looks years ahead and looks at broader social issues is rare, even in Davos."

Germany tops the list as world's best country

The best country in the world has been revealed as Germany, according to a new report. Canada, the United Kingdom and the United States came in second, third and fourth, respectively, in the inaugural Best Countries report released on Wednesday at the annual World Economic Forum in Davos, Switzerland. The report looked at 60 nations across the world and based the rankings on factors including sustainability, adventure, cultural influence, entrepreneurship and economic influence. Spending power of consumers in a country also contributed to the ranking, according to USA Today. To gather the data, more than 16,200 business leaders and other members of the public were surveyed. The study is a joint project between US News & World Report, New York-based BAV Consulting and University of Pennsylvania's Wharton School of Business. The organizations launched a Best Countries website in Davos at the forum to present its findings. Though the United States did not finish in first, it was named the most powerful country in the report.

Ninth planet may exist beyond Pluto

Our Solar System may host a ninth planet that is 10 times the mass of the Earth and takes up to 20,000 years to orbit the Sun in a bizarre, highly-elongated path, scientists say. The object, nicknamed Planet Nine, orbits about 20 times farther from the Sun on average than Neptune. It would take the planet between 10,000 and 20,000 years to make just one full orbit around the Sun, researchers said. The researchers, Konstantin Batygin and Mike Brown, from California Institute of Technology in US discovered the planet's existence through mathematical modelling and computer simulations but have not yet observed the object directly. "There have only been two true planets discovered since ancient times, and this would be a third," said Brown. Brown said that the putative ninth planet - at 5,000 times the mass of Pluto - is sufficiently large that there should be no debate about whether it is a true planet. Unlike the class of smaller objects now known as dwarf planets, Planet Nine gravitationally dominates its neighbourhood of the Solar System. According to the researchers, Planet Nine helps explain a number of mysterious features of the field of icy objects and debris beyond Neptune known as the Kuiper Belt. "Although we were initially quite sceptical that this planet could exist, as we continued to investigate its orbit and what it would mean for the outer solar system, we become increasingly convinced that it is out there," said Batygin. "For the first time in over 150 years, there is solid evidence that the Solar System's planetary census is incomplete," he said. Scientists have long believed that the early solar system began with four planetary cores that went on to grab all of the gas around them, forming the four gas planets - Jupiter, Saturn, Uranus, and Neptune. Over time, collisions and ejections shaped them and moved them out to their present locations. "But there is no reason that there could not have been five cores, rather than four," said Brown. Planet Nine could represent that fifth core, and if it got too close to Jupiter or Saturn, it could have been ejected into its distant, eccentric orbit. The researchers have begun searching the skies for Planet Nine. Only the planet's rough orbit is known, not the precise location of the planet on that elliptical path. Batygin said that this ninth planet that seems like such an oddball to us would actually make our solar system more similar to the other planetary systems that astronomers are finding around other stars. First, most of the planets around other Sun-like stars have no single orbital range, that is, some orbit extremely close to their host stars while others follow exceptionally distant orbits. Second, the most common planets around other stars range between 1 and 10 Earth-masses. The findings were published in the *Astronomical Journal*.

पृथ्वी से 10 गुणा बड़ा सौरमंडल का नौवां ग्रह

लॉस एंजिल्स, (भाषा): हमारे सौर मंडल में नौवें ग्रह की उपस्थिति से जुड़े साक्ष्य मिले हैं जिसका द्रव्यमान पृथ्वी के द्रव्यमान से करीब 10 गुना अधिक है और यह सूर्य का एक चक्कर लगाने में 20,000 वर्ष लेता है। यह पिप्लड जिसे 'प्लैनेट नाइन' का नाम दिया गया है वह वरुण (नेपच्यून) की तुलना में औसतन 20 गुना अधिक दूरी से सूर्य की परिक्रमा करता है। अनुसंधानकर्ताओं ने कहा कि इतनी अधिक दूरी होने के कारण ग्रह को सूर्य की पूर्ण परिक्रमा करने में 10,000 से 20,000 वर्ष लगते होंगे। अमरीका के कैलिफोर्निया प्रौद्योगिकी संस्थान के कॉस्टेनटिन बेटीगिन और माइक ब्राउन ने



गणितीय मॉडलिंग और कंप्यूटर सिमुलेशन के माध्यम से ग्रह के अस्तित्व की खोज की लेकिन उन्होंने अब तक सीधे तौर पर ग्रह को नहीं देखा है। ब्राउन ने कहा "प्राचीन समय

से अब तक केवल दो वास्तविक ग्रहों की खोज हुई है और यह तीसरा हो सकता है।"

उन्होंने कहा कि इस नौवें ग्रह, जिसका द्रव्यमान प्लूटो से 5000 गुना अधिक है, उसके वास्तविक ग्रह होने के बारे में कोई संदेह नहीं है। बीने ग्रहों (ड्वार्फ ग्रहों) के विपरीत प्लैनेट नाइन अपने गुरुत्वाकर्षण बल से अपने पड़ोसी ग्रहों पर हावी रहता है। अनुसंधानकर्ताओं के अनुसार प्लैनेट नाइन की मौजूदगी का पता चलने से काइपर बेल्ट में मौजूद रहस्यमयी चीजों की खोज में मदद मिलेगी। यह बेल्ट सौर मंडल के बाहरी क्षेत्र में स्थित है और नेपच्यून की कक्षा से 30 एयू दूर है।

The Times of India

22 January 2016

BS-VI norms to be enforced by April 2020: Govt

By Dhananjay Mahapatra

In a significant step that would drastically reduce pollution caused by vehicles, the Union government on Thursday announced it would enforce BS-VI emission norms for automobiles and auto-fuel by 2020. Solicitor General Ranjit Kumar informed a bench of Justice R Banumathi that the government has decided to advance the earlier deadline of 2023 to 2020 for enforcement of BS-VI emission norms as well as supply of BS-VI auto fuel across India. "We are straightaway going to C norms and supply BS-VI auto fuel by April 2020 without going to BS-V standards from the present BS-IV norm. It will involve a huge capital expenditure of Rs 28,750 crore," Kumar said. After the court hearing, minister of state for petroleum and natural gas Dharmendra Pradhan told TOI that leap-frogging from BSIV to BS-VI and skipping BS-V norms was in sync with Prime Minister Narendra Modi's commitment to the global community that India would strive to reduce carbon footprints by 30% by 2030 from the 2005 level. Amicus Curiae Harish Salve had been pressing for advancing of enforcement of BS-VI norms from 2023 to 2020. He had said a BS-VI compliant diesel car would emit 82% less particulate matter (PM) and 68% less NOx compared to a BS-IV compliant diesel car. For this huge reduction in pollution, the price of the car goes up a marginal Rs 38,000. Finding the Centre has agreed to his suggestion for advancing enforcement of BS-VI norms to 2020, Salve told the bench: "I would like to act a little greedy. Please ask the government whether it would be ready to advance the BS-VI norm implementation to 2019 as the benefits are really huge." But, the government said it would not be possible to bring it forward any more. "We are going to supply BSIV fuel across India only by April 2017 and will be straightaway going to BS-VI by April 2020. We cannot advance it any further," he said.

Head transplant carried out on monkey: Surgeon

Italian surgeon Sergio Canavero has claimed that researchers in China have successfully carried out a head transplant on a monkey. In 2015, the maverick surgeon caused a worldwide storm when he revealed his plan to attempt a human head transplant to *New Scientist*. Now, working with other scientists in China and South Korea, he claims to have moved closer to that goal with a series of experiments in animals and human cadavers. According to Canavero, researchers led by Xiaoping Ren at Harbin Medical University, China, carried out a head transplant on a monkey. The doctors connected the blood supply between the head and the new body, but did not attempt to connect the spinal cord. Canavero says the experiment, which repeats the work of Robert White in the US in 1970, demonstrates that if the head is cooled to -15°C , a monkey can survive the procedure without suffering brain injury. "The monkey fully survived the procedure without any neurological injury of whatever kind," Canavero said, according to *New Scientist*. He added that the monkey was only kept alive for 20 hours after the procedure for ethical reasons. "We've done a pilot study testing some ideas about how to prevent injury," says Ren, whose work is sponsored by the Chinese government. He and his team have also performed experiments on human cadavers in preparation for carrying out the surgery, he says.

The Asian Age

22 January 2016

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New largest prime number discovered

Washington: A computer has helped scientists discover the largest prime number ever with over 22 million digits, breaking the previous record by approximately 5 million digits.

A team at the University of Central Missouri, headed by Curtis Cooper, also held the old record. They have actually broken the record four times. Cooper and his team are part of The Great Internet Mersenne Prime Search (GIMPS) collaboration, an effort by a lot of volunteers to find ever larger prime numbers, or, more specifically, a particular class of prime numbers that are called Mersenne, where it is one less than a power of two.

Cooper said he was notified by an email sent by the software running on a personal computer that the prime number, written as $2^{74,207,281}-1$, had been found.

—PTI

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The Times of India

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Now, car batteries for sub-zero temp

Scientists have developed an all-temperature lithium-ion battery that heats itself in sub-zero temperatures and may help electric vehicles function smoothly in winters. Conventional batteries suffer severe power loss at sub-zero temperatures. The all-temperature battery weighs costs 0.04% of the base battery. The battery uses a nickel foil of 50-micrometre thickness with one end attached to the negative terminal and the other extending outside the cell to create a third terminal.

Final Call on Differential Pricing by Month-end

Trai Chairman RS Sharma assures after the open house discussions on the consultation paper went 'lively'; no final call on net neutrality as of now. The Telecom Regulatory Authority of India (Trai) will take a final call on differential pricing by the end of January, its chairman said, describing the open house discussions on the regulator's contentious consultation paper as "lively". "It was a very lively consultation the hall was full. We will take all these into account and hope that by the end of the month, we should be able to come out with our position," Trai Chairman Ram Sewak Sharma told reporters. He, however, refused to link this consultation paper to the broader topic of net neutrality. "Net neutrality is a different subject. First we will decide differential pricing, then we will look at other issues. I cannot say at this time what Trai will do on the larger issue of net neutrality, but we will certainly take a call," Sharma said. The open house saw a near packed house, with representative from Trai, several telecom companies, civil society organisations, industry bodies, and individuals, but the debate did not turn out to be as explosive as the acrimonious lead up to it. Facebook India's policy head Ankhil Das, whose presence was hugely anticipated after a recent round of high octave communication between Trai and Facebook was made public, did not turn up. A representative of Facebook, whose zero-rated programme called Free Basics has been at the centre of the controversy surrounding the differential pricing paper, said: "As a company we have commented. With Free Basics we hope to bring people online in a non-discriminatory manner... We hope Trai will encourage Free Basics." Telecom companies including Bharti Airtel, Idea Cellular, Reliance Communications, Sistema Shyam, Tata Communications, Videocon Telecom, and Vodafone made a case for allowing differential pricing, and most cited extending the practice from voice to data services. "Differential pricing should be incorporated as were done in voice telephony. Data should be encouraged while the content part can be taken up in another consultation paper," a Vodafone representative said. The volunteer-led savetheinternet.in coalition said: "Internet is not a marketplace. Though Telcos advocate differential pricing in the name of different customer classes, but when they charge for third party content, it becomes a problem." Civil society organisations also made detailed submissions, explaining their positions. While most, including industry body Internet and Mobile Association of India, said they were against differential pricing, some took a slightly cautious view. "What hasn't been discussed is that there is already differential pricing and this is undocumented," said a representative of Centre for Internet and Society. "Free Basics isn't following certain protocol standards, and this is a concern. We don't have enough data on internet usage, costs, user experience, to take a decision now," he added. In line with trying to simplify the debate around differential pricing, Tata Communications compared the internet to pizza, which became the butt of several jokes on social media and in the open house. IAMAI president Subho Ray's candid commentary on submissions, calling some of them "badly done homework", did not go down well with some members of the audience. The software outsourcing industry body National Association of Software and Services Companies (Nasscom) was conspicuously absent. Individual entrepreneurs made a case for not having differential pricing, as that would mean the telcos would get to decide the access for their business. Some people suggested alternatives. Digital Empowerment Foundation founder Osama Manzar said unlicensed spectrum or Wi-Fi could be used to provide access in the rural areas. Trai launched the differential pricing consultation paper on December 9, which was followed by Facebook starting a mass campaign, asking its users to support Free Basics, urging them to email Trai in support of "digital equality" and supporting Free Basics. The campaign drew a lot of flak from civil society and savetheinternet.in coalition, and things took a dramatic turn earlier this week when Trai made some email exchanges between itself and Facebook public. In a largely unprecedented move, Facebook also made public on Tuesday its response to Trai's last letter. Sharma declined to comment on the letter at the open house.

Khadi goes green! Fabric will have no carbon footprint as Centre uses solar energy to drive spinning wheels

By Siddhartha Rai

The Narendra Modi government is all set to make khadi a "zero-effect, zero-defect" global product. The government has decided to harness solar energy to power "charkhas" (spinning wheels) across the country to enable handspun khadi to become the zero-carbon footprint green fabric of India. Minister of State for Micro, Small and Medium Enterprises (MSME) Giriraj Singh has received the Prime Minister's go-ahead for the project and the field trial of the 'solar charkhas' has already begun on a pilot basis in the Khanwa village of Nawada district in Bihar. Singh has also submitted a vision document for the revival of the khadi industry in the country. Singh is slated to meet officials from the PMO to discuss the vision document on Friday. "The vision of this initiative is multi-pronged: Ideological, economic and social. It is to add technology to spinning by charkhas as per the vision of Gandhiji who wanted the application of science to the spinning wheel; only that technology should not replace humans. On the other hand, solar charkhas will make khadi the green organic yarn that does not hurt the environment," Singh told Mail Today. According to the minister, while harnessing solar power for spinning would not involve the use of electricity, it would also drastically reduce water consumption. "For making a metre of khadi fabric, three litre of water is required; for making a metre of mill fabric, 55 litres of water is needed," Singh said. The new-age charkhas have been named nano spinning mills and the MSME ministry's new slogan is "Nano Spinning Mills as the new Charkhas". "The need of the hour is decentralised production which is able to create more jobs and make Khadi competitive in terms of reducing the cost of yarn and production," said Singh. In the next phase of implementation, the ministry would extend the solar charkha scheme to all the villages in India that are covered under the 'Adrash Gram Yojna'. The ministry has found that even at the experimental stage, the technology has yielded Rs 6,000 to Rs 9,000 a month for every household involved in the exercise. The ministry plans to introduce 1,000 such spinning wheels in all villages. "With just 400 spinning wheels now, the village is earning around Rs 15 crore a month, with 1,000 such wheels, the income of the villagers will go up to Rs 30 crore. We will achieve this before 2016 ends," Singh said. According to the estimates of the ministry, the solar spinning wheels will also generate employment. Estimates say 10 people are engaged in every solar spinning wheel. Thus in the village alone, 10,000 jobs would be created. "Given the number of parliamentary constituencies and the villages under the Adarsh Gram Yojna, we shall be able to create 70 to 80 lakh jobs in 2016-17," Singh said. According to studies conducted by the MSME ministry, solar charkhas have boosted production 20 times. The Khadi vision document says solar charkhas have also led to more than four-fold appreciation in income of artisans. With a drastic reduction in cost of wages, the cost of yarn, which has so far remained rather high, becomes competitive, the document said.

Trai debate on Net neutrality

Differential pricing of data was hotly debated on Thursday during Trai's open house discussion on the issue. On the one side, telecom operators Airtel, Vodafone, Idea and Reliance Communications argued that differential pricing for data should be allowed as it is critical to growth, others mainly from Internet and start-ups opposed it saying it will amount to curbs on freedom of choice to access the Internet. Telecom operators suggested that differential pricing of the data should not be confused with discriminatory pricing. Bharti Airtel and Vodafone India cited tariff forbearance to justify their position. Reliance Communications said Trai had allowed differential pricing for voice and apply the same to data tariffs. "We should not confuse differential pricing with discrimination. Classical model of marketing is on a differential product for different people. There should be same policy for data and voice," said telecom association COAI and AUSPI. However, Paytm founder and CEO Vijay Shekhar Sharma argued against differential pricing in the country. "Telecom operators have themselves said they have plans to offer free voice calling at night. Let telecom operators offer free Internet at night from 12 am to 7 am instead of trying to judge who should see and what one should see," said Mr Sharma. He said in this era, Indian entrepreneurs, service providers and companies should get equal access to every consumer. "Telecom operators have their own content, messaging and payment services. Once they will be given a choice to give somebody free Internet service of their own choice, I can take a bet they will not let other companies' service go free," Mr Sharma said. Trai has come out with a consultation paper on the issue whether the telecom operators should be allowed to charge consumers differently for accessing different websites or apps. Trai also asked Reliance Communications to keep services of Facebook's free Internet platform, Free Basics, in abeyance, till the issue on differential pricing is sorted out. In turn, Facebook launched a campaign to Save Free Basics. Indians started debating the issue of net neutrality after Bharti Airtel in December 2014 decided to charge separately for calls made over internet. However, under criticism the company was forced to suspend this decision.

Device-as-a-Service for enterprises introduced by HP

HP Inc. announced its offering of a new Device-as-a-Service (DaaS) programme, empowering businesses in India to stay ahead, move fast, be more efficient and deliver the best experiences to their customers. "HP is offering services and solutions that grow with enterprises and organisations, enabling them to leapfrog whole technologies, connect across geographies in India and even global markets," said Rajiv Srivastava, Managing Director, HP Inc., India. "As the final touch-point to their customer and employee, the right device is just the start. It's about how you manage that device, ensuring flexibility, integrating the right application and keeping it secure till it's replace," he said. With HP Device-as-a-Service, enterprises and organizations can use their PCs like a utility. They can pay one price per seat on a monthly basis over a three or four year period. They will also get customized services and support from HP, such as PC configuration and software installation, onsite break-fix, data migration, proactive support, while having the ability to upgrade to the latest HP commercial desktop, not-ebook PCs, and tablets for subsequent contract periods, the company said in a statement. HP DaaS was first implemented with Maruti Suzuki in India, with a focus on empowering their sales force with tablets that come with interactive content and serve as an on-ramp for customer information.

Battery energy storage costs seen falling 70 percent by 2030

The cost of storing energy in batteries could fall by as much as 70 percent over the next 15 years as new solar battery technology and other technical advances drive prices down, the World Energy Council said on Wednesday. Grid-scale electricity storage would make the variable supply of renewable sources such as wind and solar more flexible, and it could add energy to the grid quickly when power needs spike. At the moment, total electricity generating capacity must be far higher than average consumption to cater for peak demand but energy storage could overcome the current problem where power is generally consumed at the time it is generated. Currently, the high cost of battery systems can prevent power plant operators from deploying them on a commercial scale. But the costs of several storage technologies will fall as production volumes increase, according to a report by the World Energy Council. Storage options range from pumped hydroelectric storage, which accounts for most of grid-scale energy storage capacity worldwide available now, to newer, higher technology chemical approaches including lithium ion and sodium sulphur batteries. Battery technologies show the greatest reduction in cost by 2030, falling by as much as over 70 percent from 100-700 euros per megawatt hour (MWh) in 2015 to 50-190 euros/MWh in 2030, the report showed. "Solar storage will become more competitive as new battery technology drives prices down, and wind storage more attractive as technical advances in areas such as composite materials enables the power generated by wind turbines to increase," the World Energy Council said in a statement. "While batteries are currently too expensive for large-scale use, improving technology is cutting costs which means storage systems could replace some plants and avoid the need for new ones, as well as reduce demand for oil," it added. Pumped hydroelectric storage will have the lowest cost reduction as it is a more mature technology, followed by compressed air energy storage. The widely-used way of calculating the cost - using the levelised cost of energy or the combined cost of generating electricity, building a plant and fuel costs - can lead people to think energy storage is more expensive than it actually is because it ignores the value of stored energy.

Deccan Herald

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New blood test may prevent misuse of antibiotics

Washington, PTI: Scientists are developing a rapid blood test that can determine whether a respiratory illness is caused by infection from a virus or bacteria so that antibiotics can be more precisely prescribed. Researchers at Duke University in US have developed 'gene signatures,' patterns that reflect which of a patient's genes are turned on or off, to indicate whether someone is fighting infection from a virus or bacteria. Results can be derived from a small sample of the patient's blood. The signatures were found to be 87 per cent accurate in classifying more than 300 patients with flu viruses, rhinovirus, several strep bacteria and other common infections, as well as showing when no infection was present. Researchers are a significant step closer to developing a rapid blood test that could be used in clinics to distinguish bacterial and viral infections and to guide appropriate treatment. "A respiratory infection is one of the most common reasons people come to the doctor. We use a lot of information to make a diagnosis, but there's not an efficient or highly accurate way to determine whether the infection is bacterial or viral," said Ephraim L Tsalik from Duke University. "About three-fourths of patients end up on antibiotics to treat a bacterial infection despite the fact that the majority have viral infections. There are risks to excess antibiotic use, both to the patient and to public health," Tsalik added. Participants with respiratory problems were enrolled during visits to emergency departments at five hospitals.

More Human than Human: Best of Man and Machine

By John Kelly

We are witnessing the dawn of an entirely new approach to knowledge and understanding, one that will change what we know and how we think. Nearly five years ago this month, a lot of people's eyes were opened to the possibilities of a future with cognitive computing and artificial intelligence (AI) when an IBM Research technology named Watson defeated past winners Ken Jennings and Brad Rutter on the popular American television quiz show Jeopardy! I worked closely with the scientists that built that system, and it was thrilling to see a computer mine the books, literature and conversation of people -the messy, unstructured information that constitutes the majority of our lives -and produce accurate, human-like responses to the popular game show's questions. For many computer scientists, that match on Jeopardy! marked the end of the so-called 'AI Winter' and ushered in a flurry of investment, research and development in this space. Already, billions of people benefit from simple, somewhat one-dimensional AI technologies in their smartphones, social media sites and other products. These one-off approaches to AI are fine. But real progress -and the most meaningful benefits for business and society -will come from those in the community who pursue more holistic approaches to R&D, addressing everything from hardware architecture to algorithmic strategy and process design to industry expertise. This sort of approach is accelerating time to market for truly cognitive systems that learn at scale, reason with purpose, and interact with humans naturally. These systems are already capable of processing massive quantities of information in seconds -far beyond what any of us could do on our own -and producing thoughtful, natural language responses. They are being designed -very purposefully, very thoughtfully -to support human cognition and extend human expertise, to augment our intelligence. One of the most promising venues for these cognitive systems is healthcare. Right now, Watson is working with 14 of the world's leading cancer institutes. It has ingested more than 12 million pages of medical articles, 300 medical journals, 200 textbooks, and tens of millions of patient records. It is learning to read X-rays and other medical images to help physicians identify even the most minute anomalies. And it is cross-referencing this information with patients' genetic profiles to suggest personalised treatments plans. The power of this new model is being applied to many other domains. Oil and gas companies are combining seismic imaging data with analyses of hundreds of thousands of papers and reports, current events, economic data and weather forecasts to create risk and reward scenarios for exploratory drilling. Banks are analysing customer requests and financial data to help them make investment recommendations. Companies in heavily regulated industries are querying the system to keep up with ever-changing legislation and standards of compliance. Watson is also being applied to the Internet of Things to extract intelligence from the physical world around us -from how variations in weather affect business to finding hidden patterns in how people are interacting with the brands around them. Cognitive technologies will be applied to every industry, every government and every city. We believe that by combining the best qualities of machines -data analytics, reasoning and sense-making with uniquely human qualities -intuition, empathy and design we will come to understand our world better and make more informed decisions about how we live in it. Cognitive technologies will enhance our ability to learn, opening new avenues of thought, and lead us to higher, more ambitious plains of thinking. That said, the onset of change often brings fear of the unknown. We have seen this throughout history before the advent of new technology, especially when that technology promises to democratise information. The printing press and the Internet itself come to mind here. And in each case, calamity never came to pass. The real concern would be inhibiting cognitive technology before its full potential can be realised. Indeed, we pay a significant price every day for not knowing what can be known: not knowing what's wrong with a patient; not knowing where to find critical natural resources; or not knowing where the risks lie in our global economy. Many of the ambiguities and inefficiencies of the critical systems that facilitate life on this planet can be eliminated. Cognitive computing is the tool that will help us accomplish these ambitious goals.

New bird species identified from its song, named after Salim Ali

Bengaluru, DHNS: A new bird species has been found in India and it has been named after India's noted ornithologist and conservationist Salim Ali. The Himalayan Forest Thrush *Zoothera salimalii* was found by a group of researchers in the Himalayan forests in 2009. The researchers from India, along with those from China and Russia, studied the bird till 2015, before it was announced. Shashank Dalvi, one of the researchers and alumnus of the Post Graduate Programme, Wildlife Biology and Conservation WCS - India Programme, told Deccan Herald, that he along with Dr Per Alstrom, found the bird for the first time in May-June, 2009, while studying birds at high elevations of Western Arunachal Pradesh. The bird is found from Darjeeling in West Bengal to China. "The first time we saw the bird, we thought it was the Plain-backed Thrush, but after research, we found that this is different. The team of researchers collectively studied the DNA and morphology of the bird. The team found that this bird had two different types of songs. It was harsh and unmusical when on higher terrain and highly musical when on lower terrain," he said. Researchers therefore named this new species the Himalayan Forest Thrush *Zoothera salimalii*, which they found was different from the high-elevation "Plain-backed Thrush", which was renamed as the Alpine Thrush. The Alpine Thrush retains the scientific name of *Zoothera mollissima*. The Himalayan Forest Thrush is locally common. It was overlooked till now because of its similarity in appearance to the Alpine Thrush. Further analyses of plumage, structure, song, DNA and ecology from throughout the range of the "Plain-backed Thrush" revealed that a third species was present in central China. While this population was already known, it was treated as a subspecies of "Plain-backed Thrush". The scientists have instead called it Sichuan Forest Thrush. The song of the Sichuan Forest Thrush was found to be even more musical than the song of the Himalayan Forest Thrush, Dalvi said.

The Hindu

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Rural India too battles hypertension

Obesity and diabetes cases increase in urban areas; experts blame it on stress and faulty diet. Higher stress levels in rural India and faulty diet in cities have thrown up two most disturbing health concerns in the National Family Health Survey (NFHS), the data for which was released on Wednesday. While obesity levels have shot up in the country since the last NFHS survey in 2005-06, the number of people suffering from hypertension in rural India is, in many cases, higher than in urban parts. The NFHS on Wednesday released the data for 15 States and each State, with the exception of Puducherry, showed a sharp rise in obesity levels among both men and women. In Andhra Pradesh, for instance, where over 10,000 households were surveyed, 45.6 per cent of the total women surveyed in urban areas were found to be overweight - the highest in the country. Obesity among rural women in AP was found to be 27.6 per cent, which may not appear alarming, but is still high compared to other rural parts. Among women, obesity levels shot up from 13.92 per cent in 2005-06 to 19.56 per cent in 2015-16. For men, the rise from the last decade has been from 10.35 per cent to 18.04 per cent. While rural Bihar recorded the fewest number of women suffering from obesity among the 15 States, but more women in rural parts here were found to have hypertension compared to urban parts of Bihar - a trend seen in other parts of the country as well. In Andaman and Nicobar, more men and women in rural parts were found to be suffering from hypertension than in urban centres. This trend was found in Meghalaya too. As for blood sugar levels, most States have maintained the traditional difference between urban and rural areas, with urban centres recording more cases of high blood sugar. The few exceptions have been recorded in Goa where the number of women in rural areas with high blood sugar was more than in urban Goa. The same trend was mapped in Puducherry. In Tripura and also in Haryana, more men in rural areas had high blood sugar than men in urban parts. Health experts said the overall obesity in urban India and rising hypertension in rural India was indicative of the faulty diet of people and also of the stress levels of women in rural India. "High stress levels in rural areas are rooted in income, agriculture and high cost of healthcare. Also on the food front, there is lack of potassium-rich food like fruits and vegetables," said health expert Veena Shatrugna, former deputy director of the National Institute of Nutrition, Hyderabad.