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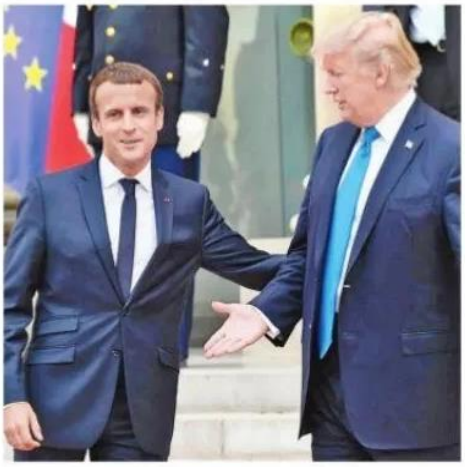
MAIL TODAY

Tue, 03July 2018

France may soon be US's closest military ally



French President Emmanuel Macron with US counterpart Donald Trump.

THE US has hinted that France could become its closest military ally unless Britain pumps more money into forces.

Defence secretary Jim Mattis suggested the UK might not continue to be a "global actor" unless funding was increased. He contrasted Theresa May's reluctance to invest more in military might with the stance taken by Emmanuel Macron. The comments came in a letter that has been leaked as UK defence secretary Gavin Williamson lobbies hard for his budget to be expanded.

Donald Trump is expected to heap pressure on NATO members to spend more at what could be a bad-tempered summit next week.

Mattis told Williamson that US is "concerned" the UK's forces and diplomatic influence are "at risk of erosion". He said he wanted Britain to remain "partner of choice" but added that the French were committed to being "global actors" alongside the US. Trump will travel to Europe for a NATO gathering on July 11-12, before leaving for the UK.

BRITAIN CORNERED

- US defence secretary Jim Mattis delivered warning in letter to his British counterpart Gavin Williamson
- Pointed out that both the United States and France were committing to higher spending
- Warned that the UK might not be a 'global actor' if investment in defence stalled

Mattis said "the credibility of the UK's armed forces" had been crucial in securing its place on the world stage. "I am concerned that your ability to continue to provide this critical army foundation for diplomatic success is at risk of erosion, while together we face a world awash with change."*Daily Mail*

THE ECONOMIC TIMES

Tue, 03July 2018

Make in India to go to Russia? Government to take call on Rs 2,400-crore submarine plan

By Manu Pubby

The defence ministry is shortly expected to take a call on whether a Rs 2,400-crore project to extend the service life of its primary conventional submarines would be done under the Make-in-India initiative or would go to a Russian shipyard NSE -3.48 % where the boats were originally manufactured. The complicated process – which will extend the life of the Kilo class submarines by 10 years – can bring a significant amount of technology and skill to India but the Navy has been concerned that it could lead to delays. Something that it is vary of, given the declining strength of its underwater fleet.

At stake is the medium refit and life extension of two Kilo class submarines, starting with the INS Sindhu ratna that is already dry docked and ready to be shipped. As per original plans that were cleared in 2016, a total of four Kilo class submarines were to be given the life extension.

While two of these were to be sent to Russia, the remaining two were to be upgraded at an Indian yard, according to a decision taken by the Defence Acquisition Committee (DAC). It is this contract for two submarines, valued at over `2,400 cr, which has become a bone of contention. Two Indian yards were in the fray for the project – L&T and the Hindustan Shipyard Limited (HSL)). While the private yard did not submit bids, HSL has emerged as the sole contender and is confident it can undertake the project.

"We have the capability of undertaking this project in India. We have been carrying out regular refits for Kilo class submarine at the yard and this would require much more work but we are confident that it can be done on time," Rear Admiral LV Sarat Babu, CMD, HSL told ET. At the back of the Navy's mind is history with HSL – the yard took nine years to refit one its submarines, the INS Sindhu kirti, as it went through

financial difficulties in the past. HSL, however, believes that these problems have now been resolved with the yard having undergone a turnaround.

One hurdle that will be faced with upgrading the submarines in India is whether the Russian manufacturer would give the crucial life extension certification. This can only be done by the original manufacturer of the submarine.

Tue, 03July 2018

North Korea is expanding a missile-making plant: Report

North Korea continued to develop a key rocket-engine facility in the run-up to Kim Jung UN's summit with U.S. President Donald Trump, according to an independent analysis of satellite imagery. The Middlebury Institute of International Studies report found that North Korea has recently expanded a factory complex in the eastern city of Ham hung that produces key engines for solid-fuel ballistic missiles. The factory also makes other missile components, including re-entry vehicles for warheads that could be used on longer-range missiles capable of reaching the U.S."The expansion suggests that, despite hopes for denuclearization, Kim Jung Un is committed to increasing North Korea's stockpile of nuclear-armed missiles," the report's authors David Schmerler and Jeffrey Lewis wrote.

The analysis, which was first reported by the Wall Street Journal, is the latest to undercut Trump's assurances that North Korea is "no longer a nuclear threat" after his June 12 meeting with Kim in Singapore. U.S. intelligence officials have separately concluded that Kim was seeking to conceal his nuclear weapons stockpile and had no intention of surrendering his arsenal, NBC News reported.

The Middlebury report examined imagery from the weeks before the Trump-Kim summit, in which Kim agreed to "work toward complete denuclearization of the Korean Peninsula." The expansion efforts came after the North Korean leader made a similar denuclearization pledge during his April 27th meeting with South Korean President Moon Jae-in.

The factory in question produces wound-filament airframes and nozzles for engines used in solid-fuel missiles, particularly the Pukguk song series of rockets, the report said. Such missiles are more concerning to U.S. military planners because they can be kept hidden while fuelled, making them easier to deploy and harder to target during any attack.

The expansion suggests that Kim is working to make good on his May 2017 order — following a successful test of a Pukguksong-2 missile — to "rapidly mass-produce" the rocket. While Kim has subsequently pledged to halt nuclear-weapons tests, he hasn't said anything about production and has made no commitment to disarm.

U.S. Secretary of State Mike Pompeo is working to firm up those commitments in the wake of the summit, with the Financial Times reporting that he plans to soon visit Pyongyang. Pompeo spoke with South Korean Foreign Minister Kang Kyung-what by telephone on June 29 to discuss the next steps in negotiations.

Tue, 03July 2018

China aims to outstrip NASA with super-powerful rocket

The Long March-9 is projected to carry 140 tonnes into low-Earth orbit

China is working on a super-powerful rocket that would be capable of delivering heavier payloads into low orbit than NASA, a leading Chinese space expert was quoted as saying on Monday.

By 2030, the Long March-9 rocket under development will be able to carry 140 tonnes into low-Earth orbit — where TV and earth observation satellites currently fly — said Long Lehao, a senior official from the Chinese Academy of Engineering, according to the official Xinhua news agency.

This compares to the 20 tonnes deliverable by Europe's Ariane 5 rocket or the 64 tonnes by Elon Musk's Falcon Heavy, which in February catapulted one of the U.S. entrepreneur's red Tesla Roadster cars towards Mars. It would also outstrip the 130 tonnes of NASA's Space Launch System, which is due to become operational in 2020. China's Long March-9 would have a core stage measuring 10 metres in diameter and boast four powerful boosters, each with a diameter of five metres.

Xinhua quoted Mr. Long as saying the rocket could be used in manned lunar landings, deep space exploration or constructing a space-based solar power plant.

In addition, China is working on a reusable space rocket, which is expected to make its maiden flight in 2021. The first stage and the boosters will be retrieved after a vertical landing, Mr. Long said in a speech in Beijing. China is pouring billions into its military-run space programme, with hopes of having a crewed space station by 2022, and of sending humans to the Moon in the near future.

The Asian superpower is looking to finally catch up with the U.S. and Russia after years of belatedly matching their space milestones. China is also planning to build a base on the moon, the state-run Global Times said in early March.

THE HINDU

Tue, 03July 2018

Astronomers capture image of a planet's birth

Rare catch: Image of a planet in the very act of formation around the dwarf star PDS 70.AP/ESOAP/ESO Gas giant found near young star Astronomers say they've captured the first confirmed image of a planet forming in the dust swirling around a young star. They said the planet appears as a bright spot in the snapshot taken using the European Southern Observatory's Very Large Telescope in Chile.

Miriam Kepler of the Max Planck Institute for Astronomy in Germany said hints of baby planets have been detected before, but astronomers weren't sure whether those observations might simply be features in the swirling dust. In a paper to be published in Astronomy & Astrophysics , scientists describe the planet, located about three billion km from the star PDS 70, as a gas giant bigger than Jupiter. It has a cloudy atmosphere and a surface temperature of 1,000 degrees Celsius.

THE ECONOMIC TIMES

Tue, 03July 2018

Indian scientists make their meeting with Nobel heroes count

By Divya Rajagopal

Mumbai: It took a four-hour car ride, a long queue at New York's JFK airport and an eight-hour plane journey for Yale School of Medicine post doc student ILA Datar, 31, to get to Lindau, a Bavarian island in Germany. Five months into her pregnancy, Datar was determined to make the trip despite the discomfort as she did not want to miss out on an opportunity to be part of a highly select gathering of scientists. The annual Lindau Nobel Laureates Meeting that concluded last week is a beacon for young scientists all over the world. Launched 60 years ago, it brings together the world's most famous scientists, Nobel laureates and

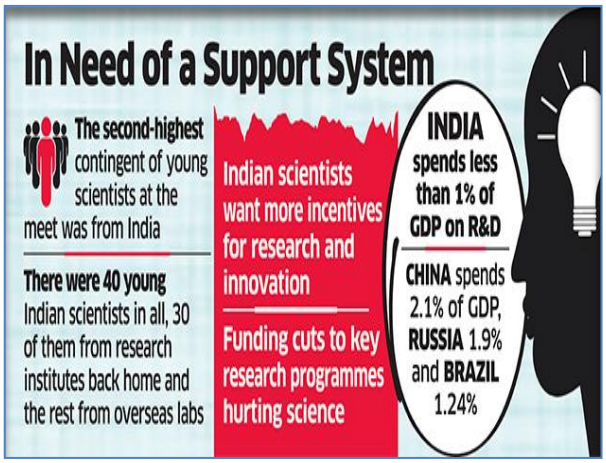
young researchers with an aim to help them find mentors and take science to a wider public. In its 68th edition this year, the meeting was dedicated to the field of medicine and physiology.

More than 50,000 typically apply from all over the world and 700 get chosen. The meeting offers researchers an opportunity to closely interact with Nobel laureates from their discipline over seven days. "It's

a huge thing to be here," Datar told ET aboard a cruise ship that was ferrying the Nobel laureates and young scientists to their next panel discussion. "It's a big deal not because it talks about science, but because as scientists we need inspiration and encouragement to keep going on and on".

Datar is researching cancer immunology at Yale, having moved to the US after her MA in microbiology from Fergusson College in Pune, to explore areas of study that India doesn't offer. India's young scientists made their mark, with the second-highest contingent after Germany at the Lindau meeting. There were 40 Indian young scientists in all, 30 of them from research institutes back home and the rest from overseas labs. Mrinmoy Pal, 22, from the Indian Institute of Science, Education and Research (IISER), Kolkata, was one of the youngest at the Lindau meeting.

His biggest learning's from the laureates was that scientific investigation should be driven by the desire to make a difference to society, rather than for accolades such as the Nobel, and to persist with scientific ideas through rigorous research. "Yes, we do see all the laureates as our heroes and want to probably be at their position sometime in our scientific career," Pal said. "But it should not be our goal to do science.



This advice by laureate Peter Agree was an important message to young researchers like me." Pal's next step in his scientific career is heading to the Helmholtz Institute of Epigenetic and Stem Cells, Munich, to pursue his PhD.

Nobel laureate Peter Agree stressed the importance of political will to tackle some of the gravest infectious diseases of the developing world such as malaria, in an interview with ET. Agre is director of the John Hopkins Malaria Research Institute where he is overseeing new research in drug and vaccine discovery for the disease.

Amid the euphoria of interacting with Nobel laureates and the best scientific minds, there was one cold, hard truth that the Indian scientists knew they would have to face back home — bureaucratic obstruction and the lack of financial and institutional support.

India has to try two things immediately, said one of the young scientists. One is to recreate a global environment in the prime research institutes and the second is to invest more money and provide more grants to encourage basic science research.

Last year, for instance, the Department of Science and Technology cut the number of scholars under the Innovation in Science Pursuit for Applied Research (INSPIRE). The brightest have been forced to go abroad in pursuit of better opportunities and research funding with few coming back home to work. In contrast, China has been spending heavily on research. International day at Lindau was dedicated to China and the Hong Kong Investment Council was out in full force, promoting R&D tax incentives and the nearly $10 billion in investment that it is making to push science.

India's commitment pales in comparison. India's spending on R&D (about 0.6% of GDP) is well below that of major nations such as the US (2.8%), China (2.1%), Israel (4.3%) and South Korea (4.2%), according to the Economic Survey released in January 2018.

Santosh Kumar Kuncha, 28, a fourth-year PhD student from the Centre for Cellular and Molecular Biology, Hyderabad, was aware that the meeting was critical for his career as it will help him establish a strong network with participants from various countries and move toward an interdisciplinary approach. Regarding the issue of brain drain, he like many scientists thinks India needs to hold back talent by providing opportunities."The policies need to be long term (at least 15 years). Science cannot be time bound at least for basic research," he said. (This journalist was awarded a scholarship to attend the 68th Lindau Nobel Laureates Meeting in Lindau, Germany).

The Statesman
PEOPLE'S PARLIAMENT, ALWAYS IN SESSION

Tue, 03July 2018

Earth's first animals caused global warming: Study

While global warming is deemed as the direct result of man-made activities, a new research has claimed that the climate change phenomenon was caused by the evolution of Earth's first animals more than 500 million years ago.

The study revealed that some 520-540 million years ago, animal life evolved in the ocean and began breaking down organic material on the seafloor, leading to more carbon dioxide (CO2) and less oxygen in the atmosphere.

In the 100 million years that followed, conditions for these earliest animals became much harsher, as ocean oxygen levels fell and CO2 caused global warming.

"Like worms in garden, tiny creatures on the seabed disturb, mix and recycle dead organic material -- a process known as bioturbation," said Tim Lenton, Professor at Britain's University of Exeter.

"Because the effect of animals burrowing is so big, you would expect to see big changes in the environment when the whole ocean floor changes from an undisturbed state to a bioturbated state." This impact of bioturbation on global biogeochemistry likely affected animal evolution through expanded ocean anoxia, high atmospheric CO2 levels and global warming and possibly contributed to a number of mass extinction events.

"The critical factor was to realise that the biggest changes happen at the lowest levels of animal activity," said Sebastian van de Velde, of the Vrije Universities Brussel in Belgium.

"This meant that the first bioturbators had a massive impact." According to the researchers, this realization was the "missing piece of the puzzle", and allowed them to construct a mathematical model of Earth around that time to look to the changes caused by these early life forms.

"We knew that warming occurred at this point in Earth's history but did not realise it could be driven by animals," they said.

The researchers noted: Tere is an interesting parallel between the earliest animals changing their world in a way that was bad for them, and what we human animals are doing to the planet now".

Lenton said: "We are creating a hotter world with expanding ocean anoxia (oxygen deficiency) which is bad for us and a lot of other creatures we share the planet with". IANS.