

are top creditors with

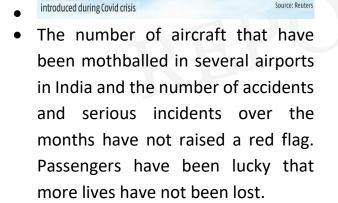
Go First has also borrowed over ₹1,200 cr under

Centre's Emergency Credit Line Guarantee Scheme

an exposure of ₹1,300 cr

each

Airline crisis



Source: Reuters

- This false numbness is likely to be mushrooming shortly.
- Leasing companies repossessing aircraft due to non-payment of lease charges and airports requiring cash and carry operations from an airline for airport and fuel charges are all clear indications that the financial

health of the airline is in a state of deterioration.

- What is urgently required in Indian aviation is transparency and accountability.
- This includes not just the airline owners and promoters but also the Ministry of Civil Aviation, the DGCA, and the officials concerned.
- A complete revamp of India's civil aviation policy is required.
- To begin with, they should enforce a ban on any official of a failed airline from holding managerial posts in another airline. Airlines should also be asked to have a corpus fund locked up to meet the dues of employees and passengers in the event of an airline closing down.
- India is a goldmine for tourism. Aviation is a sector that is important to cash in on this.
- But the way it has been mismanaged killed makes one wonder and whether we can ever reach the potential to become the fastestgrowing sector.



Washington Declaration

- What does the Washington Declaration say? The agreement outlines cooperation toward deterrence. According to the declaration, an American nuclear ballistic submarine would be deployed in the Korean peninsula;
- A nuclear consultative group would be formed to formulate principles of joint response tactics; South Korea would receive Intel from the U.S. regarding nuclear advancements; and the U.S. will strengthen South Korea's nuclear deterrence capabilities through joint military training programs and an annual intergovernmental simulation.
- The declaration reaffirmed the nonproliferation Treaty implying that South Korea would not venture into the creation of its own independent nuclear capabilities and would instead focus on deterrence measures through an alliance-based approach. It also mandates the U.S.
- President is the only 'sole authority' to use the nuclear arsenal of the U.S. in the event of a nuclear confrontation.
- While the existence of the agreement is based on the security needs of South Korea, the policy reflects big power politics where the

interests of the larger power (U.S.) take precedence.

Why is the U.S. not keen on S.Korea having a nuclear arsenal?

- The Nuclear Posture Review 2022 reflects a shift in the U.S. narrative where it is now concerned about the progressing nuclear capacities of North Korea.
- The report states that North Korea creates "deterrence dilemmas for the United States and its Allies and partners," and that "a crisis or conflict on the Korean Peninsula could involve a number of nuclear-armed actors,
- The U.S. wants to control global nuclear arms production. It has been reluctant to allow South Korea to develop its own nuclear arsenal as it would hinder the prolonged efforts of controlling nuclear production in the world.
- The assurance that the U.S. and its nuclear weapons would protect its allies by being responsible for maintaining stability in the region aligns with the larger goal of nonproliferation.



India and Russia - Rupee transaction

- India and Russia have halted efforts to settle bilateral trade in rupees after months of negotiations failed to convince Moscow to keep rupees in its coffers, two Indian government officials and a source with direct knowledge of the matter said.
- This would be a major setback for Indian importers of cheap oil and coal from Russia who were awaiting a rupee payment mechanism to help lower currency conversion costs.
- With a high trade gap in favor of Russia, Moscow believes it will end up with an annual rupee surplus of over \$40 billion if such a mechanism is worked out and feels rupee accumulation is 'not desirable', an Indian government official, who did not want to be named, told Reuters.
- The rupee is not fully convertible and India's share of global exports of goods is just about 2%. These factors reduce the necessity for other countries to hold rupees-



THE HINDU

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Hearing a Passing Ripple in Space-Time

Predicted by Einstein's general theory of relativity 100 years ago, gravitational waves have been directly detected for the first time. LIGO, the Laser Interferometer Gravitational-Wave Observatory. heard black holes colliding

> second, the pair collided and nerged into an irregular shape



and the smaller one 29 times

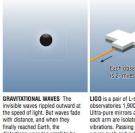
distortions were too small to be measured above the heat, noise

and other vibrations of our planet.

SOURCES: LIGO Caltech MIT S



RING DOWN The unstable blob smoothed itself into a sphere, a process called ring down. Three solar masses' worth of energy were vaporized in a storm of gravitational waves, distorting space and time and leaving a new black hole 62 times the mass of the sun.



LIGO is a pair of L-shaped observatories 1,900 miles apart. Ultra-pure mirrors at the ends of each arm are isolated from vibrations. Passing gravitational waves push and pull the arms, changing the length of tunnels by less than the width of a proton.

A CHIRP On Sept. 14, LIGO's detectors measured their first vibrations from a gravitational wave. Translated to sound, it was a short chirp, the billion-year-old echo of the collision of those two

The New York Times/ IONATHAN COBUM

- In the distant universe, black holes merge, supernovae explode, and neutron stars collide. Colossal events such as these create cosmic ripples in space-time called gravitational waves.
- In 2015, the Laser Interferometer Gravitational- Wave Observatory (LIGO for short) observed this phenomenon for the first time,

http://www.gesreporter.com/

LIGO

expanding our understanding of the universe around us.

- Now, the United States National Science Foundation is partnering with top U.S. universities and India's Raja Ramanna Centre for Advanced Technology, or RRCAT (a unit of the Department of Atomic Energy, Government of India) to launch LIGO-India.
- Albert Einstein's 1916 general theory of relativity first predicted the phenomenon of gravitational waves.
- In 2015, for the first time in human history, physicists observed the gravitational waves emanating from two merging black holes, 1.3 million light-years from Earth.
- This Nobel prize-winning breakthrough was accomplished by the Laser Interferometer Gravitational-Wave Observatory, known as LIGO,
- LIGO uses lasers to detect ripples in space-time through a method called interferometry: as gravitational waves pass by, they cause space itself to stretch and squeeze, which scientists can measure through changes in the beams of the LIGO lasers.
- LIGO-India will create new opportunities in Maharashtra's Hingoli district. Projects such as LIGO-India can create jobs across the

technical workforce, unleash new avenues for scientific talent, and inspire the next generation of science, technology, engineering, and mathematics (STEM) leaders.

- By joining the global network, i.e., the two LIGO detectors in the U.S., Virgo in Italy, and the Kamioka Gravitational-wave Detector (KAGRA) in Japan, LIGO-India will push forward the boundaries of what science and technology can achieve and help unlock some of the universe's greatest mysteries.
- LIGO-India is а collaboration between the LIGO Laboratory operated by Caltech and MIT and funded by the National Science Foundation (NSF) and India's RRCAT, the Institute for Plasma Research (IPR), the Inter-University Centre for and Astrophysics Astronomy (IUCAA), and the Department of Atomic Energy Directorate of Construction, Services and Estate Management (DCSEM).



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