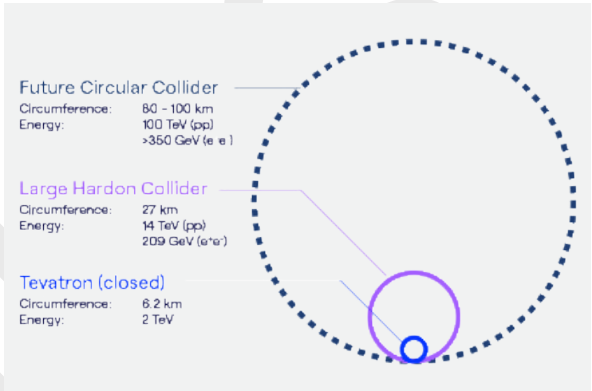


NEWS TODAY

CERN (EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH) SHORTENS LHC RUNNING PERIOD

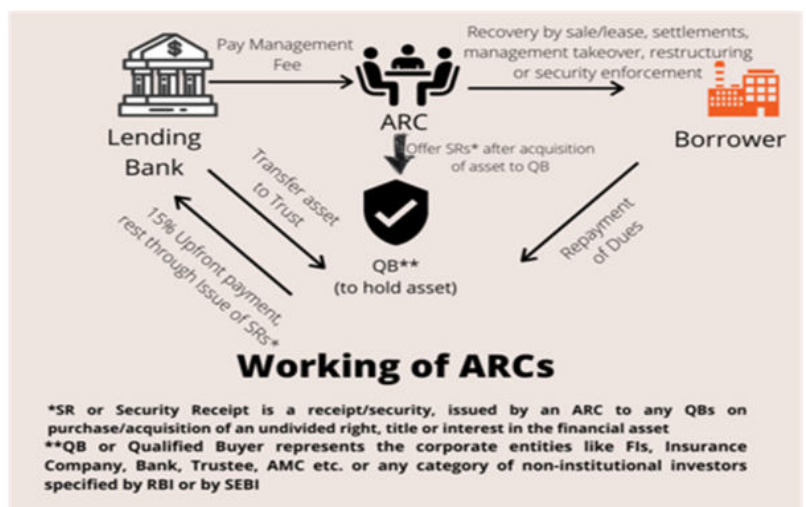
- Known for discovering 'god particle' in 2012, CERN has shortened running period of their Large Hadron Collider (LHC) to reduce its energy intake.
 - Higgs boson or God particle is **fundamental force-carrying particle of Higgs field**, which is responsible for granting other particles their mass.
- LHC, first started in 2008, is world's largest and most powerful particle accelerator ever built that pushes protons or ions to near the speed of light.
 - It consists of **27-kilometer ring of superconducting magnets** with several **accelerating structures** to boost the energy of particles.
 - LHC is used to **smash accelerated protons or lead ions** to measure **energies, directions and velocities** of these particles at **four particle detectors- ATLAS, CMS, ALICE and LHCb**.
 - Purpose:** To find answers to open questions left in **Standard Model of Particle Physics** such as **origin of mass evidences of supersymmetry, dark matter, dark energy** etc.
- CERN has proposed to develop a **Future circular collider (FCC)**, a successor to current LHC.
 - FCC is **next generation of higher performance particle colliders** planned to have a **100 km circumference** and reach **100 TeV (tera electron Volts)** of collision energy.



- CERN, founded in 1954, is a **Geneva-based particle physics laboratory** that provide a unique range of **particle accelerator facilities** that enable research at forefront of human knowledge.
 - Currently, it has **23 member states**.
 - India is an **Associate Member State of CERN** along with others while **Japan, US, UNESCO and EU hold observer status**.

NATIONAL ASSET RECONSTRUCTION COMPANY LTD (NARCL) ACQUIRES FIRST STRESSED ASSET

- NARCL, an **Asset Reconstruction Company (ARC)/bad bank**, has acquired its **first stressed asset- Jaypee Infratech-** from lenders.
- NARCL/Bad bank is a **corporate structure that isolates risky assets held by banks in a separate entity**. It was announced in Union Budget 2021-22.
 - NARCL will take over **large value NPA accounts (over ₹500 crore) from banks** with total assets to be acquired of **around ₹2 lakh crore**.
 - Stressed assets will be acquired through a **15 percent upfront cash payment and 85 percent in form of security receipts (SR)**.
 - NARCL is incorporated **under Companies Act with Public Sector Banks holding a majority stake**.
 - It is **registered with RBI as an ARC under Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002**.



- Significance of Bad Bank**
 - Reduce NPAs of banks**, improving financial system stability and efficiency.
 - Improve recoveries and promote competition**, as NARCL allows Swiss Challenge to get the best for banks from stressed assets.
 - Opportunities for other ARCs at MSME's level**, as NARCL reconstruct assets only where banks total exposure is more than ₹500 crore.



EMERGENCY CREDIT LINE GUARANTEE SCHEME (ECLGS) BAILED OUT 14.6 LAKH MSMEs: SBI RESEARCH REPORT

- As per report, incentives provided by ECLGS have **helped in boosting credit flow to MSMEs**.

Key findings

- MSME loan accounts worth Rs 2.2 lakh crore improved for entire banking industry.
- Saved 12 percent of outstanding MSME credit from slipping into Non-Performing Asset and livelihood of nearly 6.6 crores.
- MSME units becoming larger with several units crossing threshold of ₹250 crore turnover and turning into mid-sized corporates by new definition of MSME units. (refer image)
- ECLGS is a special scheme to provide 100 percent guarantee coverage to banks and NBFCs to enable them to extend emergency credit facilities to Business Enterprises/MSMEs.
- It was announced as part of AatmaNirbhar Bharat Package with:
 - Emergency Credit Line of upto 20% of total outstanding as on February 29, 2020.
 - 100% Guarantee Coverage with maximum tenure of 4 years from date of disbursement and one year moratorium on principal amount.
- It is managed by National Credit Guarantee Trustee Company Ltd (NCGTC) under trusteeship management.
- Other recent steps taken
 - MSME definition was changed in 2020 with introduction of a composite criteria
 - Udyam Assist Platform, developed by SIDBI (Small Industries Development Bank of India), to bring all informal micro enterprises (IMEs) into formal ambit.
 - It would benefit up to 5 crore IMEs.

MSME Definitions				
In Rupees	Old definition (Inv.)		New definition (mfg & ser.)	
	Criteria: Investment in Plant & Machinery or Equipment		Criteria: Both Investment & Turnover	
	Mfg	Services	Investment	Turnover
Micro	25 Lakh	10 Lakh	1 Crore	5 Crore
Small	5 Crore	2 Crore	10 crore	50 Crore
Medium	10 crore	5 Crore	50 crore	250 Crore

Source: Ministry of MSME

ELECTION COMMISSION OF INDIA (ECI) HOSTS 2ND INTERNATIONAL CONFERENCE ON THEME 'USE OF TECHNOLOGY & ELECTIONS INTEGRITY'

- It is a follow on to the 'Summit for Democracy', an initiative from USA with three pillars of focus (refer image).
- As part of 'Summit for Democracy', India through ECI is leading 'Democracy Cohort on Election Integrity' to share its knowledge, technical expertise, with other democracies around world.
- Three broad verticals highlighted by ECI on technology deployment to Election Management Bodies (EMBs) are
 - Ease of registration for voters,
 - Facilitating political parties & candidates, and
 - Election management & logistics/security.
- Use of technology in Elections: Managing a database of over 94.5 crore electors or ease voter registration, facilitating election-related decision-making, rationalization of polling stations, etc.
- Threats of technology in Elections: Cybersecurity with respect to transmitting voting data, deepfake narratives to elections etc. in India and worldwide.
- Technology interventions by ECI
 - cVigil Application for filling Model Code of Conduct Violation cases by citizens.
 - Saksham App for Accessible elections for people with disabilities (PwDs).
 - Electronic Voting Machines (EVM), an electronic device, for recording votes.
 - Voter verifiable paper audit trail (VVPAT) or verified paper record (VPR) provides feedback to voters using a ballot-less voting system.



FIFTH SCORPENE-CLASS SUBMARINE INS VAGIR COMMISSIONED INTO INDIAN NAVY

- INS Vagir, launched in 2020, is among the six submarines being built in India under Indian Navy's Project-75 at Mazagon Dock Shipbuilders Limited (MDL) in Mumbai under collaboration with Naval Group, France.
- Also called 'Sand Shark', INS Vagir represents 'Stealth and Fearlessness'.
- Vagir can undertake multifarious types of missions i.e., anti-surface, anti-submarine, intelligence gathering, mine laying, area surveillance, etc.
- Project-75, signed in 2005, includes indigenous construction of six submarines of Scorpene (diesel- electric) design.
 - Four of them, Kalvari, Khanderi, Karanj, and Vela have already been delivered to Navy and commissioned.
 - INS Vagsheer will be commissioned in late 2023.
- P-75I, succeeds P75, is part of 30-year submarine building plan that ends in 2030.
 - P-75I envisages construction of six conventional submarines with better sensors and weapons and Air Independent Propulsion System (AIP).
 - It provides boost to indigenous design and construction capability of submarines in India, in addition to bringing in latest submarine design and technologies.
- AIP is a technology that allows a conventional submarine to remain submerged for much longer period (fortnight) than ordinary diesel-electric submarines.
 - Fuel cell-based AIP has merits in performance compared to other technologies.

SCORPENE SUBMARINES

- They have advanced acoustic absorption techniques, low radiated noise levels, hydro-dynamically optimised shape. They can launch attack using precision guided weapons including torpedoes, and missiles.

COUNTDOWN TO 2023: WHO REPORT ON GLOBAL TRANS-FAT ELIMINATION 2022 RELEASED

- It is an annual status report published by World Health Organisation (WHO) in collaboration with Resolve to Save Lives.

➤ It monitors global progress towards 2023 target for global elimination of industrially produced Trans-Fatty Acids (TFA).

Key findings

➤ 5 billion people globally are exposed to harmful trans-fat, increasing their heart disease and death risk.

➤ 9 of the 16 countries do not have a best-practice policy.

- They are Australia, Azerbaijan, Bhutan, Ecuador, Egypt, Iran, Nepal, Pakistan and Republic of Korea.

TFA's are unsaturated fatty acids that are of two types

➤ Naturally occurring trans-fat occurs naturally in some dairy and meat products.

➤ Industrially produced trans-fat adds hydrogen to liquid vegetable oils to make them more solid. It is found in packaged foods, baked goods, cooking oils and spreads.

- Recommendations:** Invest in monitoring and surveillance mechanisms; Develop and implement best-practice policies to set TFA limits, etc.

Steps taken to regulate TFA

➤ REPLACE strategy by WHO. (refer image)

➤ FSSAI limit the content not more than 2% by mass of total oils and fats from January 2022.

➤ FSSAI made mandatory for food manufacturers to declare TFA content on nutrition label.



AN ACTION PACKAGE TO
ELIMINATE INDUSTRIALLY-PRODUCED
TRANS-FATTY ACIDS

REPLACE

REVIEW	PROMOTE	LEGISLATE	ASSESS	CREATE	ENFORCE
dietary sources of industrially-produced trans fats and the landscape for required policy change	the replacement of industrially-produced trans fats with healthier fats and oils	or enact regulatory actions to eliminate industrially-produced trans fats	and monitor trans fat content in the food supply and changes in trans fat consumption in the population	awareness of the negative health impact of TFA among policy-makers, producers, suppliers, and the public	compliance with policies and regulations

- Two best practices in trans-fat removal policies follow specific criteria, established by WHO, includes

➤ National limit of 2 grams of industrially produced trans-fat per 100 grams of total fat in all foods;

➤ National ban on production/ use of partially hydrogenated oils (major source of trans fat) as an ingredient in all foods.

ALSO IN NEWS



Digital Public
Infrastructure (DPI)

- Ministry of Finance has set up a G20 task force on DPI for Economic Transformation, Financial Inclusion and Development.

➤ It will create a detailed map of India's DPI across sectors and shortlist them to be presented by India within the individual G20 tracks.

- DPI refers to digital solutions that enable basic functions essential for public and private service delivery, i.e., collaboration, commerce, and governance. E.g. Aadhaar and UPI in India.

- DPI can enable access to protection and health services, reduce poverty and boost educational access for children worldwide.



Gold Exchange Traded
Funds (Gold ETFs)

- Gold ETFs inflow has plunged by 90% in 2022 due to rising gold prices, interest rates and inflation.

- Gold ETF is an ETF to track domestic physical gold price.

➤ ETF is a basket of securities that trades on an exchange just like a stock does.

➤ It tracks a particular index, sector, commodity, or other assets.







- Gold ETF are passive investment instruments that are based on gold prices and invest in gold bullion.

- Backed by physical gold, Gold ETFs are listed and traded on NSE and BSE.



Exercise Tarkash 2023

- It is the 6th Edition of Counter Terrorism Exercise between India's NSG (National Security Guard) and US Special Operations Forces (SOF).

 <p>Criteria for gender gap reports</p>	<ul style="list-style-type: none"> World Economic Forum (WEF) will consider the participation of women at panchayat level to rank countries in its future Global Gender Gap reports. <ul style="list-style-type: none"> Inclusion of data on women's participation at panchayat level will push India's ranking up on global stage. Presently, Global Gender Gap Index (first launched in 2006) benchmarks current state and evolution of gender parity across four key dimensions i.e., <ul style="list-style-type: none"> Economic Participation and Opportunity; Educational Attainment; Health and Survival; and Political Empowerment.
 <p>Yellow Band Disease (YBD)</p>	<ul style="list-style-type: none"> Recently, an increased rate of coral deaths has been observed on Eastern coast of Thailand due to YBD. YBD is a bacterial disease which disturbs symbiotic relations of corals causing them to die. <ul style="list-style-type: none"> Disease turns the colour of coral to yellow before destroying them completely. There is no known cure for the disease and is non reversible unlike coral bleaching. According to researchers, overfishing, rising sea water temperature and pollution is making coral more vulnerable to this disease.
 <p>Param Vir Chakra (PVC)</p>	<ul style="list-style-type: none"> On Parakram Diwas, 21 largest unmanned islands of Andaman & Nicobar Islands are named after 21 Param Vir Chakra (PVC) awardees. <ul style="list-style-type: none"> Parakram Diwas is celebrated on occasion of the birth anniversary of Netaji Subhas Chandra Bose. PVC is India's highest military decoration, awarded for displaying distinguished acts of valor during wartime. <ul style="list-style-type: none"> It was designed by Mrs. Savitri Khanolkar. Cast in bronze, it carries state emblem at centre on a raised circle surrounded by four replicas of Indra's Vajra, flanked by sword of Shivaji. <ul style="list-style-type: none"> Major Somnath Sharma (Posthumous) was first PVC awardee.
 <p>Pradhan Mantri Rashtriya Bal Puraskar (PMRBP) and Subhash Chandra Bose Aapda Prabandhan Puraskar (APP)</p>	<ul style="list-style-type: none"> PMRBP-2023 conferred upon 11 children by President of India. PMRBP is instituted by Ministry of Women and Child Development, and conferred upon children in the age group 5 – 18 years. <ul style="list-style-type: none"> It is given for six categories, viz. Art & Culture, Bravery, Innovation, Scholastic, Social Service and Sports. Odisha State Disaster Management Authority (OSDMA) and Lunglei Fire Station (LFS), Mizoram, have been selected for Subhash Chandra Bose APP-2023. <ul style="list-style-type: none"> Subhash Chandra Bose APP for 2023 was instituted by government as an annual award. It recognises and honour the contribution and service rendered by individuals and organisations in India in field of disaster management.
 <p>Light Pollution and Skyglow</p>	<ul style="list-style-type: none"> Globe at Night, an international citizen-science campaign, study has highlighted that: <ul style="list-style-type: none"> Night sky brightness has increased by 7-10% per year from artificial light between 2011-22. Visibility of stars in night sky is declining by 10% per year because of light pollution. Light pollution, also known as photo pollution, is the presence of anthropogenic light in night environment. <ul style="list-style-type: none"> Impact of Light Pollution: Interferes with astronomical research, disrupts ecosystems, threat to nocturnal wildlife especially birds etc. Skyglow is a form of light pollution characterized by diffuse illumination of night sky. <ul style="list-style-type: none"> Easily visible over cities, it doesn't include natural light sources such as moon and visible individual stars.
 <p>Tritiated water</p>	<ul style="list-style-type: none"> Fukushima to release radioactive contaminated water which was stored at Fukushima Daiichi Nuclear Power Plant on Japan's east coast due to tsunami. <ul style="list-style-type: none"> Before it is stored, wastewater produced at Fukushima is treated to remove almost all radioactive elements including cobalt 60, strontium 90 and caesium 137. But tritium—a radioactive form of hydrogen—is left behind. When one of hydrogen atoms in water is replaced by tritium, it forms radioactive tritiated water. Tritiated water is chemically identical to normal water, which makes separating it from wastewater expensive, energy intensive and time consuming.