

8. Short news

1. Mission Drishti

Space-tech start-up GalaxEye announced that it will launch Mission Drishti, the world's first multi-sensor Earth Observation (EO) satellite, in the first quarter of 2026.

About Mission Drishti

Introduction – It is a pioneering satellite mission that combines multiple sensing technologies on a single platform, enabling comprehensive Earth observation capabilities regardless of weather conditions or time of day.

Technical Specifications –

1. **Weight** – **160 kg** – India's largest privately built satellite
2. **Resolution** – **1.5 meters** – Highest-resolution sensor developed in India
3. **Payloads** – **Synthetic Aperture Radar (SAR)** and **high-resolution optical sensors**
4. **Capability** – All-weather, day-and-night Earth observation

Key Applications –

1. Border surveillance and defense operations
2. Disaster management and emergency response
3. Infrastructure and utilities monitoring
4. Agriculture and crop assessment
5. Financial and insurance assessments

Constellation Plan – GalaxEye plans to launch 8-10 satellites over the next four years to establish a complete constellation for continuous global coverage and advanced geospatial analysis.

Testing & Readiness – The Drishti satellite has undergone rigorous structural testing in extreme temperatures to prove its capability in harsh space conditions.

2. Eliminating Mother-To-Child Transmission (EMTCT)

The World Health Organization (WHO) validated the Maldives for eliminating Mother-to-child transmission (EMTCT) of hepatitis B, syphilis, and HIV.

About Mother-to-Child Transmission

It occurs when infections like HIV, syphilis, or hepatitis B are passed from an infected mother to her baby during pregnancy, childbirth, or breastfeeding. Maldives became the first country globally to achieve triple elimination of mother-to-child transmission of HIV, syphilis, and hepatitis B.

About HIV, Syphilis, and Hepatitis B

HIV – A virus that attacks the immune system, weakening the body's ability to fight infections. It attacks and destroys the CD4 cells (CD4 T lymphocyte) of the immune system. CD4 cells are a type of white blood cell that play a major role in protecting the body from infection.

Syphilis – A bacterial sexually transmitted infection caused by bacteria, leading to sores and serious complications if untreated.

Hepatitis B – A that affects the liver and can cause both acute and chronic disease.

Global Burden

In WHO South-East Asia Region alone, hepatitis B affects over 42 million people. More than 23,000 pregnant women had syphilis and over 8,000 infants were born with congenital syphilis in 2024 .

About 25,000 HIV-positive pregnant women required treatment to prevent transmission

Maldives' Success Strategy

Universal Antenatal Care – More than 95% of pregnant women receive antenatal care with nearly universal testing for HIV, syphilis, and hepatitis B

Strong Immunization – Over 95% of newborns consistently receive timely hepatitis B birth dose and full vaccine coverage

Universal Health Coverage – Free antenatal care, vaccines, and diagnostic services for all residents,

including migrants

Health Investment – Over 10% of GDP invested in health sector

Results – Zero babies born with HIV or syphilis in 2022–2023; zero hepatitis B among young children confirmed in 2023 national survey

Significance

Public Health Model – Demonstrates that with strong political will and sustained investment, elimination of these deadly diseases is achievable.

Universal Health Coverage – Showcases the importance of equitable healthcare access across dispersed populations, including migrants.

Maternal & Child Health – Important step towards 'Healthy Beginnings, Hopeful Futures' by ending preventable deaths and prioritizing long-term well-being.

Global Inspiration – Provides hope and roadmap for countries worldwide working towards similar elimination goals.

3. Rhodamine B

Scientists at the Raman Research Institute have developed a low-cost, ultra-sensitive method to detect toxic dyes like Rhodamine B by using the coffee-stain effect with gold nanorods.

About Rhodamine B

Nature – Rhodamine B is a fluorescent synthetic dye commonly used in textiles and cosmetics.

Properties – Water-soluble synthetic dye, appearing green in powder form and turning bright fluorescent pink in water.

Toxicity – The dye is toxic and banned in food and cosmetics due to its harmful effects – Causes damage to skin, eyes, and respiratory system. Important environmental contaminant that persists in water bodies

Uses – Primarily used as a coloring agent in textiles, leather, paper, and paints.

Detection Challenge – When mixed with food or water, Rhodamine B becomes diluted to concentrations as low as parts per trillion, making conventional detection techniques inadequate.

Innovative Detection Method

Scientists at Raman Research Institute used the coffee-stain effect with gold nanorods to develop a cheap and powerful way to detect toxic dyes like Rhodamine B. As water droplets evaporate, nanorods form dense edge rings that amplify light, allowing detection of dye traces as tiny as one part per trillion using Surface-Enhanced Raman Spectroscopy (SERS).

4. Operation Chakra-V

The Central Bureau of Investigation (CBI) conducted searches and arrested three people as part of Operation Chakra-V, targeting a transnational cyber fraud network.

About Operation Chakra-V

It was launched to fight against transnational organised cyber-enabled financial crimes in India. Launched by – Central Bureau of Investigation (CBI). Chakra I to IV was focused on – OTP frauds, Loan app scams & Fake investment schemes

5. Mount Lewotobi

Recently, Mount Lewotobi Laki-laki erupted in Indonesia.

About Mount Lewotobi

Introduction – Mount Lewotobi is a twin volcano comprising Lewotobi Laki-laki ("man") and Lewotobi Perempuan ("woman"), named for their two peaks separated by a 1,232 m saddle.

Location – It is located on Flores Island in Indonesia's East Nusa Tenggara province. This region is situated within the Pacific Ring of Fire, known for its high seismic and volcanic activity.

Features

Lewotobi Laki-laki (1,584 m) has a 400 m wide summit crater open to the north and has been frequently active during the 19th and 20th centuries.

Lewotobi Perempuan (1,703 m) has a 700 m wide crater and has erupted only twice in historical times.

Both volcanoes have small lava domes in their summit craters formed during the 20th century.

Recent Activity – The volcano erupted twice within a few hours, causing ash plumes up to 10 km high. The volcano previously caused fatalities and damage in November 2024.

About the Ring of Fire

Introduction – The Ring of Fire is a highly seismic region encircling the Pacific Ocean, known for frequent volcanic eruptions and earthquakes.

Location – It spans multiple tectonic plates and includes Indonesia, which hosts over 120 active volcanoes.

6. India and South Korea Naval Exercise

India and South Korea launched their first-ever bilateral naval exercise at Busan Naval Base in South Korea.

About the India–Republic of Korea Naval Exercise

Introduction – The inaugural India–South Korea naval exercise aims to enhance naval interoperability, strengthen maritime partnerships, and promote regional stability under India's Act East Policy.

Participation –

INS Sahyadri, an indigenously built Shivalik-class stealth frigate from India.

ROKS Gyeongnam, from the Republic of South Korea.

Location – The exercise is hosted at Busan Naval Harbour, South Korea, with operational activities conducted in nearby sea areas of strategic significance in the Indo-Pacific.

Phases – Harbour and Sea Phases

Strategic Significance – The exercise underscores the importance of building strong maritime partnerships based on shared interests and common values. India's sustained deployment in the South China Sea and Indo-Pacific demonstrates its commitment as a responsible maritime stakeholder and a "Preferred Security Partner" in the region.

7. Madagascar Political Crisis

Madagascar's military seized power after President Andry Rajoelina was impeached by lawmakers and fled the country amid youth-led protests demanding his resignation.

About Madagascar's Government System

Presidential System – Madagascar operates a semi-presidential system with a President as head of state and a bicameral parliament comprising the National Assembly and Senate.

Recent Crisis – The military, led by Colonel Michael Randrianirina, suspended key institutions including the Senate, High Constitutional Court, Electoral Commission, High Court of Justice, and Human Rights Council, retaining only the National Assembly.

Protests & Public Sentiment – Demonstrations began on September 25 over water and power shortages, evolving into broader protests against corruption, governance failures, and elite influence. Gen Z protesters used symbols like the "One Piece" skull-and-crossbones banner.

Transitional Rule – A military-led committee will govern alongside a transitional administration for up to two years before elections.

About Madagascar

Location – Madagascar is an island nation off southern Africa's coast in the Indian Ocean. It is the World's second largest Island Nation after Indonesia.

Major river – Mangoro, Betsiboka, Onilahy, etc

National parks – Isalo and Masoala host unique biodiversity, including endemic lemurs.

Features – It has a population of about 30 million, with three-quarters living in poverty and a median age under 20. Its economy has struggled, with GDP per capita declining 45% between 1960 and 2020.