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Geography

1. Annular solar eclipse - Indian Express

An annular solar eclipse was visible in parts of South America recently while a partial solar eclipse was visible in parts of South America, Antarctica, North America, the Atlantic Ocean, and the Pacific Ocean, including Hawaii. The solar eclipses was not visible in India.

Solar Eclipse

- **Occurrence:** Happens when the Moon moves between Earth and the Sun, blocking the Sun's light partially or fully.
- **Timing:** Only occurs during a new moon, about 29.5 days apart, 2-5 times annually.
- **Moon's Orbit:** The Moon's orbit is tilted by about five degrees, causing its shadow to usually miss Earth.

TYPES OF SOLAR ECLIPSE



TOTAL

The Moon completely blocks off the Sun's rays and casts a shadow over the Earth



ANNULAR

The Moon covers the Sun fully but due to its relatively small size the outer ring of the Sun is completely visible from Earth. This is also known as the Ring of Fire



PARTIAL

The Moon covers a part of the Sun and casts only the outer part of its shadow, the penumbra, on Earth

HYBRID: A rare form of solar eclipse which changes from an annular to a total solar eclipse, and vice versa, along its path. During a Hybrid Solar Eclipse you could see any of the three forms of eclipses, depending on exactly where you stand

WHAT IS A SOLAR ECLIPSE?

During a Solar eclipse the Sun, Moon and Earth are in a straight line and the Moon comes between the Sun and Earth. This blocks the rays of the Sun from reaching the Earth causing a solar eclipse

FACT

A solar eclipse usually occurs around two weeks prior or after a lunar eclipse

Source: timeanddate.com, news reports

2. Sahara Desert - Indian Express

The Sahara Desert, known as one of the driest places on Earth, is witnessing an extraordinary transformation as heavy rainfall breathes life into its arid landscape.

Sahara Desert

- **Location:** Northern Africa; largest hot desert, third most extensive after Antarctica and Arctic.
- **Area:** Covers 9,200,000 sq. km, about 8% of Earth's land area, and 31% of Africa.
- **Countries:** Morocco, Mali, Mauritania, Egypt, Libya, Algeria, Chad, Niger Republic, parts of Sudan, Nigeria, and Burkina Faso.
- **Boundaries:** Mediterranean Sea and Atlas Mountains (north), Red Sea (east), Atlantic Ocean (west), and Sahel region (south).
- **Features:** Rocky plateaus, salt flats, sand dunes, mountains, and dry valleys.
- **Water Sources:** Nile and Niger rivers, seasonal lakes, and aquifers provide water for oases.
- **Highest Peak:** Emi Koussi (3,415 m) in the Tibesti Mountains, Chad.
- **Sahel Region:** Transition zone between the desert and savannas of Sub-Saharan Africa.



3. Little Prespa Lake on Albanian-Greek border slowly dying - The Hindu

Plants and reeds have sprouted up as the waters of Little Prespa Lake on the Albanian-Greek border recede, their beauty overshadowing a painful truth: the lake is slowly dying.

Lake Prespa

- **Location:** At the junction of three geological masses—granite massif (East), karstic massif (West), and Suva Gora (South).
- **Significance:** One of the oldest tectonic lakes in Europe and the highest on the Balkan Peninsula.
- **Geology:** Features rocks from the Paleozoic to Neogene era.
- **Components:** Includes Great Prespa Lake (Albania, Greece, North Macedonia) and Small Prespa Lake (mainly in Greece, partly in Albania).
- **Environmental Issues:** Affected by rising temperatures, mild winters, and low precipitation.



Society

4. SARTHIE 1.0 initiative launched – PIB

- **Objective:** Empower disadvantaged communities like SCs, OBCs, Senior Citizens, Transgender Persons, Victims of Substance Abuse, Beggars, Denotified and Nomadic Tribes.
- **Alignment:** Supports the UN 2030 Agenda for Sustainable Development focusing on poverty eradication, reducing inequality, and social protection.
- **Collaboration:** Aims to bridge the awareness gap and provide legal assistance for effective implementation of social welfare programs.
- **Synergy:** Promotes coordination between the executive and judiciary to strengthen social justice.

Polity

5. Caste bias, segregation of work in prisons violate dignity, says SC – The Hindu

The Supreme Court recently declared that caste-based discrimination of prisoners, segregation of their work according to caste hierarchy, and the treatment of inmates from the de-notified tribes as “habitual offenders” within prison walls across India are oppressive to fundamental human dignity and personality.

Removing bias

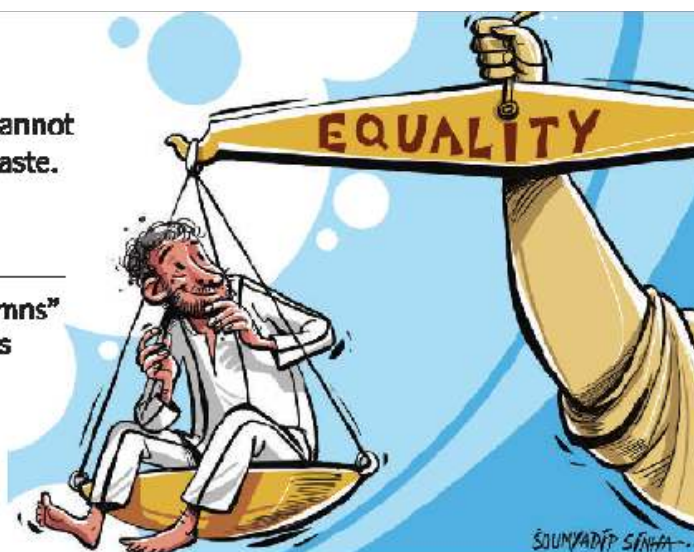
The Bench says “everyone is born equal” and cannot suffer lifelong due to stigma attached to their caste.

The directions include:

- States and UTs should revise their Prison Manuals/Rules in three months
- Centre should address caste-based discrimination in the Model Prison Manual 2016 and the Model Prisons and Correctional Services Act 2023 in

three months

- “Caste columns” and references to caste in prisoners’ registers should be removed



6. Marathi, four more languages get classical tag – The Hindu

The Union Cabinet recently approved classical language status to Marathi, Bengali, Assamese, Pali, and Prakrit.

Classical languages

Criteria for declaring a language as classical:

The language should have a long history of at least 1,500-2,000 years, documented in early texts.

It should possess a body of ancient literature that is highly regarded as a cultural heritage by generations of speakers.

The literary tradition of the language should be original and not borrowed from another speech community.

The classical language and its literature should be distinct from its modern form, potentially showing a discontinuity between the classical language and its later forms or offshoots.

Classical Languages Recognised earlier:

Tamil: Declared in 2004, Tamil was the first language to receive this status.

Sanskrit: Accorded classical language status in 2005.

Telugu: Declared in 2008.

Kannada: Also recognized in 2008.

Malayalam: Added to the list in 2013.

Odia: The latest to be recognized, was in 2014.

Benefits of the Status:

Once a language is designated as classical, the Ministry of Education provides various benefits to promote it, including:

Two major international awards annually for scholars of eminence in the language.

Establishment of a Centre of Excellence for Studies in the Classical Language.

7. USCIRF flags India's 'collapsing religious freedom' - The Hindu

The United States Commission on International Religious Freedom (USCIRF), a Washington DC-based bipartisan U.S. federal government agency, has released a country update on India, flagging "collapsing religious freedom conditions".

USCIRF Report on Religious Freedom in India

- **USCIRF Report:** Highlights "collapsing religious freedom conditions" in India, worsening throughout 2024, particularly around national elections.
- **Legal Changes:** Strengthening of discriminatory laws like anti-conversion and anti-terrorism laws, implementation of the 2019 CAA, and passing of State-level UCC Bill in Uttarakhand.
- **Issues Highlighted**
 - Expropriation and Demolition of Places of Worship: Authorities facilitated expropriation of worship sites, including construction of Hindu temples on mosque sites; violation of Places of Worship Act.
 - Anti-conversion Laws: Used to target religious minorities; several Christians arrested for alleged forced conversions.
 - Anti-cow Slaughter Laws: Exploited by vigilante groups to target Muslims, Christians, and Dalits; perpetrators rarely face punishment.
 - Hate Speech: Cites speeches by MLAs Nitesh Rane and Geeta Jain.
- **Recommendation:** USCIRF recommends the U.S. State Department designate India as a "Country of Particular Concern" for severe religious freedom violations.

U.S. Commission on International Religious Freedom (USCIRF)

- **Establishment:** Under the 1998 International Religious Freedom Act (IRFA).
- **Functions:**
 - Reviews violations of religious freedom internationally.
 - Makes policy recommendations to the President, Secretary of State, and Congress.
 - Monitors religious freedom using international standards.
 - Publishes an annual report with independent recommendations for U.S. policy.
 - Composition
- **Composition:** Nine commissioners appointed by the President or Congressional leaders of each party, supported by non-partisan staff.

8. Indian push needed to end AIDS as a global health threat by 2030: UNAIDS - The Hindu

Without India doing a large part of the heavy lifting, it is unlikely that the world will meet the Sustainable Development Goal of ending AIDS as a public health threat by 2030, said Eamonn Murphy, UNAIDS director for the Asia Pacific and other regions, in a written interview with The Hindu.

Joint United Nations Programme on HIV/AIDS (UNAIDS)

- **About:** Organisation leading the global effort to end AIDS as a public health threat by 2030 as part of the Sustainable Development Goals.
- **Establishment:** 1996.
- **Vision:** Zero new HIV infections, zero discrimination and zero AIDS-related deaths, and a principle of leaving no one behind.
- **UN Political declaration on ending AIDS:** Adopted in 2016, it seeks to end AIDS as a public health threat by 2030.
- **UNAIDS Secretariat:** Geneva, Switzerland.



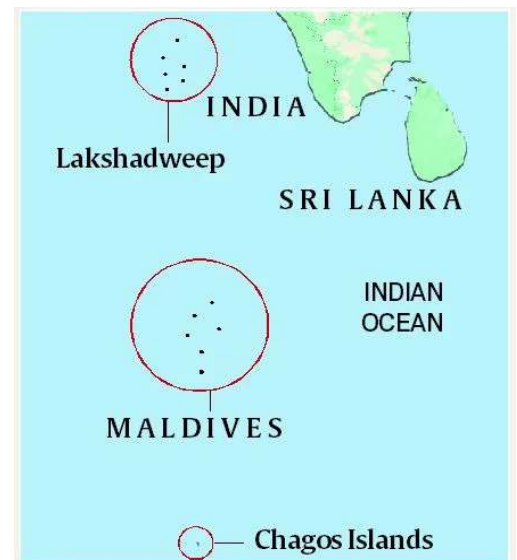
Joint United Nations Programme on HIV/AIDS
UNAIDS
UNICEF • UNDP • UNFPA • UNDCP
ILO • UNESCO • WHO • WOLRD BANK

9. U.K. to return Chagos Islands to Mauritius in historic agreement - The Hindu/ Why Chagos Islands matter, why UK keeps Diego Garcia after Mauritius deal - Indian Express

The UK recently said it would cede sovereignty of the strategically important Chagos Islands to Mauritius.

The Chagos Archipelago

- **Location:** 58 islands in the Indian Ocean, about 500 km south of Maldives.
- **History:** French brought slaves from Africa and India in the late 18th century; ceded to Britain in 1814.
- **British Indian Ocean Territory (BIOT):** Formed in 1965; Chagos was administratively attached to Mauritius.
- **Independence:** In 1968, Mauritius gained independence, but Chagos remained with Britain; compensation of 3 million pounds was given.



Strategic Military Base

- **US-UK Agreement (1966):** BIOT made available for defence purposes.
- **Diego Garcia:** Became a military base in 1986; used for US operations in the Gulf War, Iraq, and Afghanistan, and possibly as a CIA detention centre post-9/11.
- **Strategic Importance:** Critical for US interests in West Asia and monitoring the Malacca Strait.

Dispute and Resolution

- **Mauritius' Claim:** UK's occupation of Chagos deemed illegal; raised in international forums.
- **UN Involvement:** In 2017, the UNGA referred the matter to the International Court of Justice (ICJ); in 2019, the UNGA demanded the UK's withdrawal.
- **UK-Mauritius Agreement:** Mauritius can resettle in Chagos (except Diego Garcia); UK to create a trust fund for Chagossians.
- **Diego Garcia:** Remains operational under UK sovereignty for 99 years.

Broader Implications

- **China Factor:** Unresolved disputes could lead countries like Mauritius to seek support from China.
- **India's Position:** Supports Mauritius' claim; voted in favour at the UNGA in 2019. Strengthening ties with Mauritius, including building an airstrip and jetty at Agaléga.

10. India and the W Asian crisis - Indian Express

For the second time since April, Iran and Israel are on the brink of all-out war. Recently, Iran fired almost 200 missiles at Israel, which has vowed to respond.

Qatar: Influential mediator, engaged with all sides, provides aid to Palestine, hosts Hamas leaders.

Egypt: Focuses on countering terrorism; concerned about refugee influx from Gaza.

Saudi Arabia: Leader in the Islamic world; relationship with Iran is complex; Saudi-Israeli peace talks currently stalled.

UAE: Keen on regional stability for economic prosperity; signed normalisation agreement with Israel.

Turkey: Serves as a back channel between Iran and Israel's allies.

US: Traditional mediator, firmly supports Israel.

China: Positioning itself as a mediator; promoting peace talks for strategic interests in the region.

Key Regional Players

India and the W Asian crisis

Relationship Challenges

India-Israel Relations: Strong defence and security ties; Israel is a key defence supplier.

India-Iran Relations: Iran supplies crude oil; shared concerns on terrorism and Chabahar port as a strategic asset.

Balancing Relations: Past tensions between Israel and Iran have posed challenges for India's diplomacy.

India's Stakes in West Asia

Indian Community: About 90 lakh Indians in the region; potential risks in case of wider conflict.

Energy Security: Region supplies 80% of India's oil; conflict may lead to higher energy prices.

Economic Interests: Investments by Arab countries in India could be affected, as well as the India-Middle East-Europe Economic Corridor initiative.

11. Bangladesh, Nepal, India sign pact to facilitate cross-border power trade - Indian Express

Nepal, India and Bangladesh on Thursday signed a tripartite agreement to facilitate cross-border electricity trade, officials here said.

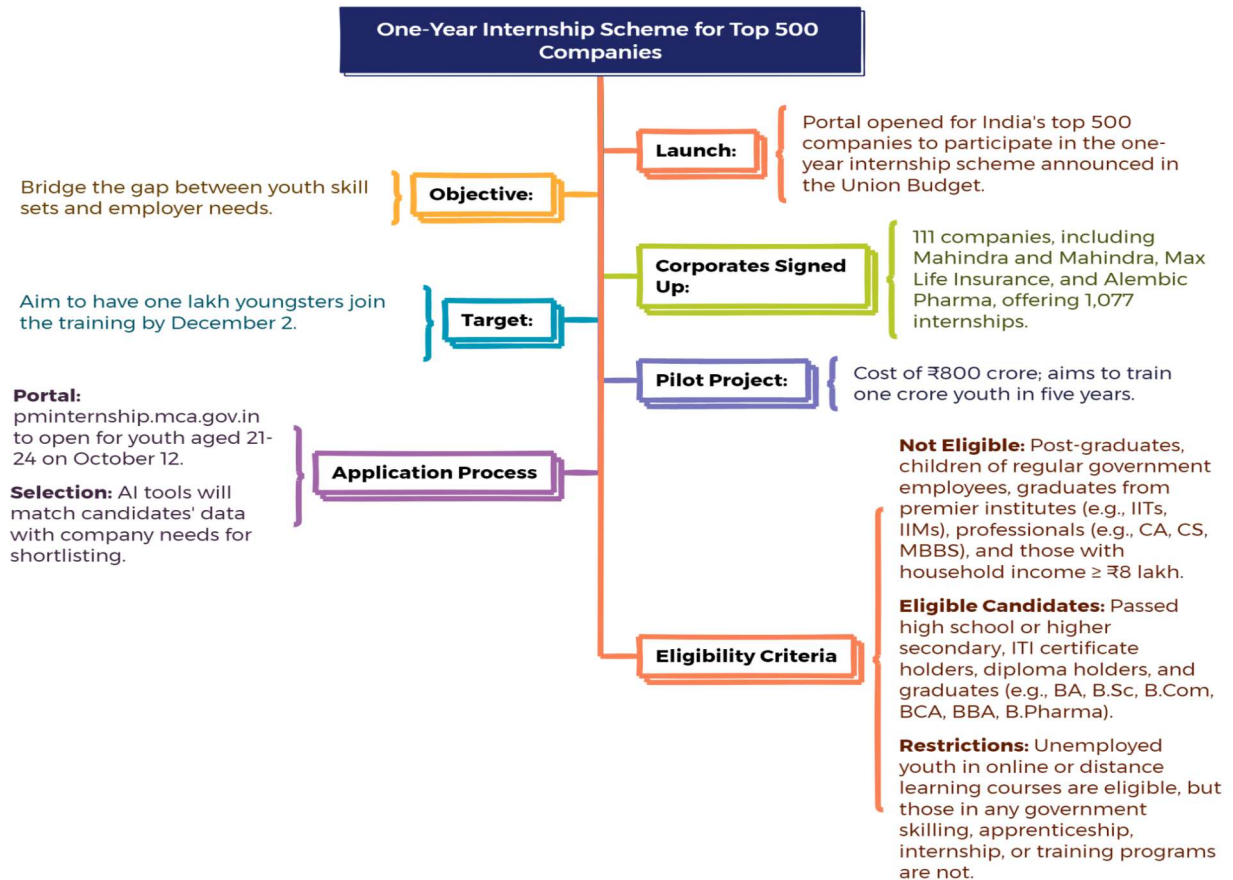
Tripartite Agreement for Cross-Border Electricity Trade

- **Countries Involved:** Nepal, India, and Bangladesh.
- **Purpose:** Facilitating cross-border electricity trade.
- **Provision:** Nepal will export 40 MW of hydroelectricity to Bangladesh via Indian territory from June 15 to November 15 annually.
- **Signatories:** NEA Executive Director, NTPC Vidyut Byapar Nigam CEO, and Bangladesh Power Development Board Chairman.

Economy

12. Govt. opens portal for internships to bridge skill set gap - The Hindu

The Union government recently opened up a portal for India's top 500 companies to participate in the one-year internship scheme announced in this year's Union Budget to bridge the gap between the skill sets of unemployable youth and those needed by employers.



13. All agri sector initiatives brought under 2 new schemes; States to implement them - The Hindu

The Union Cabinet recently decided to merge all Central schemes in the agriculture sector into two new schemes, Pradhan Mantri Rashtriya Krishi Vikas Yojana (PM-RKVV) and Krishonnati Yojana (KY). The Cabinet also approved the National Mission on Edible Oils - Oilseeds (NMEO-Oilseeds). The Cabinet also approved the signing of a letter of intent enabling India to join the Energy Efficiency Hub.

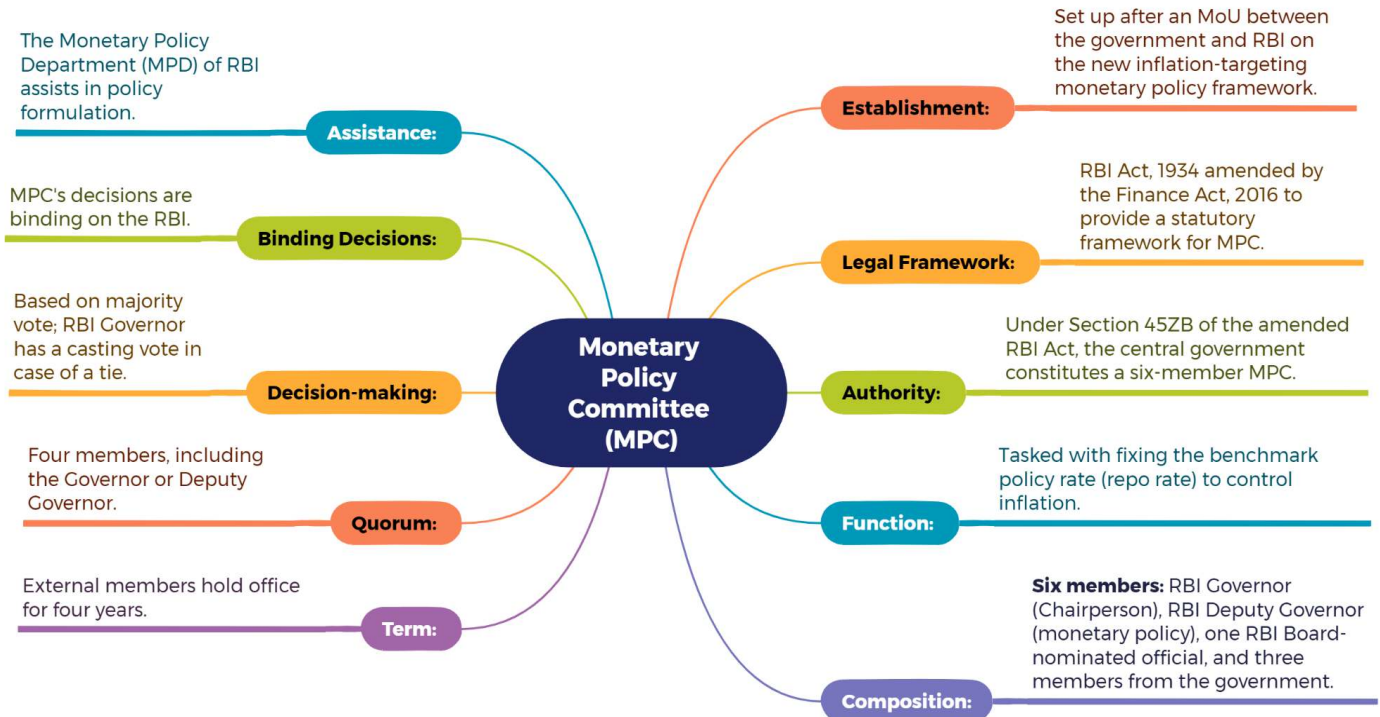
Merger of Central Agriculture Schemes

- **Merger:** All Central agriculture schemes merged into two—Pradhan Mantri Rashtriya Krishi Vikas Yojana (PM-RKVV) and Krishonnati Yojana (KY).
- **Budget:** Total expenditure of ₹1,01,321.61 crore; Central share ₹69,088.98 crore, States' share ₹32,232.63 crore.
- **Objectives:**
 - **PM-RKVV:** Promoting sustainable agriculture (₹57,074.72 crore).
 - **KY:** Addressing food security and agricultural self-sufficiency (₹44,246.89 crore).
- **Implementation:** Through State governments; focuses on nutrition security, sustainability, climate resilience, value chain development, and private sector participation.
- **Rationalisation:** Avoid duplication, ensure convergence, and provide flexibility to States.
- **Comprehensive Plan:** States can prepare a strategic plan for agriculture with Annual Action Plan (AAP) approved in one go.
- **Merged Schemes:** Includes Soil Health Management, Rainfed Area Development, Agro Forestry, Paramparagat Krishi Vikas Yojana.

14. Government picks three new members to join RBI's Monetary Policy Committee - The Hindu

The Central government, recently appointed new monetary policy committee members with immediate effect.

Monetary Policy Committee (MPC)



Sci and Tech

15. India's cyber-physical hubs are ready to take off - Indian Express

The success of government's National Mission on Interdisciplinary Cyber-Physical Systems will play a pivotal role in positioning India as a global leader in CPS technologies, with far-reaching implications for the country's economic growth, self-reliance, and societal well-being.

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Budget: Rs 3,660 crore.

Objective: Position India as a global leader in Cyber-Physical Systems (CPS).

Domain: Integrates the physical world with computational systems.

Key Sectors: Includes AI, ML, robotics, cybersecurity, and autonomous navigation.

Focus: Translational research to bridge the gap between theory and market-ready solutions.

Technology Innovation Hubs (TIHs): Established in 25 academic and research institutions, each focusing on specific domains.

Structure: Operate as Section 8 companies under the Companies Act 2013, ensuring operational autonomy and purpose-driven focus.

Goal: Transform research into high TRL products aligned with national priorities.

Achievements: Created 1,500+ technologies and products.

Established 650 startups and spinoff companies.

Generated 16,000+ jobs and trained 1,50,000 people in entrepreneurship.

Role: Developed a Security Operations Centre (SOC) to protect critical infrastructure (e.g., power plants, water treatment) from cyber threats.

Technologies: Real-time risk assessment, malware analysis, intrusion detection; cost-effective compared to global solutions.

Testing: Industry-scale test beds for safeguarding IT and OT assets.

About: Specializes in autonomous navigation technologies with a testbed for aerial and terrestrial systems.

Features: Rainfall simulators and V2X communication systems for testing AGVs and UAVs/USVs.

Collaborations: With Texas A&M and Tata Technologies; achieved technology readiness level nine.

Focus: Sustainable agriculture and water management.

Role: Developed 'Digital Entomologist' (AI-based pest detection), AI-powered Livestock Management, and Nanobubble Technology for water purification.

Global Impact: Solar-powered biodiversity sensors deployed in Switzerland, Australia, and the US to create a Biodiversity Index of Farms.

National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS)

Translational Research and Innovation Hubs in NM-ICPS

Key Achievements of the Innovation Hubs

India's cyber-physical hubs

Future Directions

Self-Reliance and Global Leadership

NM-ICPS aims to develop technological advancements for both domestic and global needs.

Innovation hubs to achieve financial autonomy through commercializing research.

Indian industries to co-create innovations, fund projects, and integrate research with real-world applications.

Upcoming project to develop multilingual and multimodal AI models in 22 Indian languages.

Led by IIT Bombay, involving public, private, and academic sectors.

Expected to significantly impact India's technological ecosystem.

Generative AI for Bharat

Incubated by I-Hub Foundation for Cobotics at IIT Delhi.

Commercialized drone-swarming technology; valued at over Rs 160 crore.

Botlabs Dynamics

Contributing to the defence and entertainment sectors.

Specializes in UAVs for high-altitude, long-endurance surveillance.

Incubated at ARTPARK at IISc Bangalore; provides cost-effective solutions for extreme weather.

COMRADO Aerospace

Key player in the defence sector.

Startups Driving Innovation and Market Adoption

Developed at Pravartak Technology Foundation at IIT Madras.

Created India's first commercial chip for secure IoT, based on open-source RISC-V architecture, offering a 30% cost advantage.

Mindgrove Technologies

Used in smartwatches and EV battery management systems.

Incubated at IIT Bombay.

Developed AyuSynk, a Bluetooth-enabled digital stethoscope that amplifies heart and lung sounds up to 60 times, enhancing diagnostic accuracy in primary healthcare.

Ayu Devices

The NM-ICPS aims to make India self-reliant and globally competitive through technological innovation. By bridging the gap between research and commercialization, it has the potential to transform sectors like defence, healthcare, agriculture, and autonomous navigation. Its success will boost economic growth, improve societal well-being, and position India as a global leader in CPS technologies.

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