

Current Affairs - 30 January 2025

BHASHINI PLATFORM



In a first for Northeast India, Tripura has pioneered the use of artificial intelligence for greater digital inclusion by adopting state-of-the-art text-to-speech technology under the BHASHINI initiative, government officials said recently.

- BHASHINI, or the **BHASHa Interface for India**, is **India's Artificial Intelligence (AI) - led language translation platform**, breaking down language barriers and enabling conversations between speakers of different Indian languages.
- It aims to enhance internet accessibility and digital services in Indian languages, incorporating **voice-based functions** and **promoting content creation in diverse languages**.

Launched in July 2022 under the **National Language Translation Mission (NLTM)**, it aims to **provide technology translation services in 22 scheduled Indian languages**.

- It aims to make **Artificial Intelligence and Natural Language Processing (NLP) resources available in the public domain** to be used by Indian MSMEs, startups and individual innovators.
- It is **implemented by the Digital India BHASHINI Division**, a division under the **Digital India Corporation**, a Section 8 Company of the **Ministry of Electronics and Information Technology**.
- The platform is accessible through dedicated **Android and iOS apps**, providing a user-friendly experience.

This online platform also has a separate '**Bhasadaan**' section which **allows individuals to contribute to multiple crowdsourcing initiatives**.

Current Affairs - 30 January 2025

NATIONAL CRITICAL MINERALS MISSION: A STEP TOWARDS SELF-RELIANCE

- The Indian government has approved the **National Critical Minerals Mission (NCMM)** with a total outlay of ₹34,300 crore over seven years.
- The mission aims to reduce **import dependence on critical minerals**, boost domestic **exploration and processing**, and accelerate India's shift towards **green energy technologies**.

Objectives and Key Features of the Mission:

- **Enhancing Domestic Exploration:** A significant portion of the mission's funds will be allocated to intensifying mineral exploration across the country and in offshore areas.
- **Reducing Import Dependence:** India heavily relies on imports for critical minerals like lithium, cobalt, nickel, and rare earth elements, essential for electric vehicles (EVs), battery manufacturing, and renewable energy technologies. This mission aims to curb that dependence.
- **Developing Processing and Recycling Capabilities:** The mission will encourage investment in mineral processing parks, recycling technologies, and research on sustainable extraction methods.
- **Overseas Mineral Acquisitions:** Public sector enterprises and private companies will be encouraged to acquire mineral assets abroad to ensure a steady supply of critical minerals.
- **Regulatory and Financial Support:** The mission will streamline regulatory approvals and offer financial incentives for mineral exploration and development.

Significance of Critical Minerals:

- Critical minerals such as **copper, lithium, nickel, cobalt, and rare earth elements** are essential raw materials for modern industries. They are widely used in:

Current Affairs - 30 January 2025

- **Renewable Energy Infrastructure:** Wind turbines, solar panels, and electricity networks.
- **Electric Vehicles (EVs):** Batteries and charging infrastructure.
- **Electronics & High-Tech Industries:** Smartphones, defense equipment, and medical devices.
- As the world transitions to clean energy, demand for these minerals is soaring, making their **domestic availability crucial** for India's long-term economic and technological security.

Impact on India's Energy Transition:

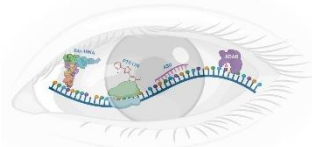
- The NCMM is expected to:
 - **Secure mineral supply chains** for India's clean energy sector.
 - **Boost domestic manufacturing** of EV batteries and renewable energy components.
 - **Strengthen India's position** in the global critical minerals market.
 - **Attract foreign and private investment** in mining and mineral processing.

Challenges & Way Forward:

- While the mission is a significant step forward, certain challenges remain:
 - **Geopolitical Risks:** Acquiring mineral assets overseas can be influenced by global political dynamics.
 - **Environmental Concerns:** Increased mining activities must balance ecological conservation.
 - **Investment Risks:** Private sector participation needs strong policy support.
 - To address these challenges, the government plans to collaborate with **research institutions, industries, and international partners** to ensure a sustainable and efficient implementation of the mission.
-

Current Affairs - 30 January 2025

RNA THERAPY



- It is a term used to describe the use of **RNA-based molecules** to modulate biological pathways to cure a specific condition.
- Unlike gene-editing therapies, RNA-based therapies **offer a safer alternative** as they make temporary changes that **do not carry over to future generations**, reducing the risk of unintended long-term effects.

Applications of RNA based Therapies:

- **RNA-editing with ADAR enzymes:** It can correct specific genetic mutations at the RNA level. This method has the potential to **restore protein production in retinal cells** without altering the underlying DNA, offering a new way to treat retinal degenerative diseases caused by single-point mutations.
- **Using of suppressor tRNAs:** It is to bypass **stop-codon mutations**, which can prematurely halt protein synthesis in retinal cells. By enabling the production of full-length proteins, this approach could help restore proper retinal function in IRD patients.
- **PTC124 Method:** It is also **known as ataluren**, which is already being used to treat patients with **cystic fibrosis and Duchenne muscular dystrophy**.
- **Antisense oligonucleotides (ASOs)** have already been used successfully to treat diseases such as **spinal muscular atrophy and Duchenne muscular dystrophy**.

INDIA-CHINA DIPLOMATIC THAW

India and China have taken significant steps to improve their bilateral relations, including resuming the Kailash Mansarovar Yatra this summer, restoring direct flights, issuing visas for journalists and think tanks, and sharing trans-border river data.

These decisions followed a meeting between India's Foreign Secretary Vikram Misri and Chinese officials.

Current Affairs - 30 January 2025

- **Kailash Mansarovar Yatra**

- The statements from both India and China are similar regarding the **resumption of the Kailash Mansarovar Yatra**, but the Chinese statement reflects more urgency, specifying it will happen "**as soon as possible**."
- India stated that the yatra will resume in **summer 2025**, with discussions on modalities taking place as per existing agreements.

- **Direct Flights**

- India and China also agreed in principle to resume direct flights, but with slight differences in emphasis.
- India's statement highlighted the need for a new pact and for technical authorities from both sides to meet and negotiate an updated framework.
- China's statement, meanwhile, connected the resumption of flights with facilitating personnel flows and exchanges of resident journalists.
- Currently, India has only one resident journalist in China, while China has none.

- **Trans-Border River Cooperation**

- India and China have agreed to hold an **early meeting** of the **India-China Expert Level Mechanism** to discuss issues related to **trans-border rivers**, including the sharing of hydrological data.
- This follows concerns raised by India about China's construction of the world's largest dam on the **Brahmaputra** River, which was cleared in January.

Analysis

- **India's Approach**

- India advocated for a **step-by-step approach** to address areas of mutual **interest** and **concern**, particularly focusing on the **border situation**.
- The Indian statement highlighted the resumption of existing dialogues, agreeing to take a gradual approach in addressing each side's priorities through these mechanisms.

Current Affairs - 30 January 2025

- **China's Approach**

- China maintained its **long-term strategy** for handling bilateral relations, emphasizing that both sides should view and manage relations based on the **fundamental interests** of their countries and peoples.
- China called for promoting relations along a **sound and stable track** from a **strategic and long-term perspective**.

- **Trade Concerns**

- India raised specific concerns regarding market access and discussed the need for policy transparency and predictability in economic and trade areas.
- However, the Chinese statement did not address these concerns, leaving the issue unmentioned on their side.

- **Support for SCO Presidency**

- China mentioned that India would extend full support for China's presidency of the Shanghai Cooperation Organization (SCO) and actively participate in the meetings under the SCO umbrella.
- In contrast, India did not comment on this aspect in its statement.

- **Differing Views on Mutual Relations**

- China emphasized the importance of avoiding mutual suspicion, estrangement, and exhaustion in relations between the two countries.

ISRO'S 100TH LAUNCH

ISRO achieved its 100th rocket launch with the first launch of 2025, as the GSLV-F15 successfully placed the NVS-02 navigation satellite into orbit.

100 LAUNCHES, BY VEHICLE		
LAUNCH VEHICLE	MISSIONS	
Satellite Launch Vehicle	4	
Augmented Satellite Launch Vehicle	4	
Polar Satellite Launch Vehicle	62	
Geosynchronous Launch Vehicle	16	
Launch Vehicle Mark III (previously GSLV Mk III)	7	
Small Satellite Launch Vehicle	3	
Reusable Launch Vehicle	1	
Test Vehicle Mission	1	
Pad Abort Test	1	

The GSLV-F15 is the 17th flight of India's Geosynchronous Satellite Launch Vehicle (GSLV) and 11th flight with Indigenous Cryo stage. It is the 8th operational flight of GSLV with an indigenous Cryogenic stage.

Current Affairs - 30 January 2025

About NVS-02

- NVS-02 is one of the five replacement satellites for the Indian Regional Navigation Satellite System (IRNSS), also referred to as NavIC (Navigation with Indian Constellation).
 - It is the second satellite in the NVS series, part of the NavIC system.
 - **NVS-01**, launched in May 2023, was the first second-gen NavIC satellite and carried India's first indigenous atomic clock.
- **Enhanced Features**
 - Heavier and longer mission life than previous satellites.
 - Indigenously developed atomic clock for improved accuracy.
 - Enabled with L1 frequency, widely used in the **US GPS system**, allowing better compatibility with personal trackers and other devices.
- NVS-02 enhances the reliability and accessibility of India's navigation system for both civilian and strategic applications.

NavIC: India's Regional Navigation System

- NavIC is a seven-satellite regional positioning system that can provide location data on the Indian mainland and up to 1,500 kilometres around.
- **Coverage and Accuracy**
 - Provides position accuracy of up to 20 meters under the standard service.
 - A restricted service offers even better accuracy for specific users.
- **Advantages Over GPS**
 - **More accurate in India** than GPS due to satellites positioned directly overhead.
 - **Better signal availability** in difficult terrains like **valleys and forests**, unlike GPS signals, which reach India at an angle.
- **Global Navigation Systems**
 - NavIC is the only regional system in the world.
 - Japan's QZSS augments GPS signals but is not independent.

Current Affairs - 30 January 2025

- **Four global systems exist:**

- | | |
|--------------------|------------------|
| ▪ GPS (USA) | GLONASS (Russia) |
| ▪ Galileo (Europe) | Beidou (China) |

ISRO's Journey

- **Historical Background**

- ISRO traces its origins to the Indian National Committee for Space Research (1962) under the Department of Atomic Energy.
- It was **formally** established in 1969, the same year the U.S. sent astronauts to the Moon. A dedicated Department of Space was created in 1972.

- **Milestone Achievements**

- **100 launches** have placed 548 satellites (120 tonnes) into orbit, including 433 foreign satellites (23 tonnes).
- ISRO has launched various **communication, earth observation, navigation, and experimental satellites**.
- **Scientific Missions** include AstroSat, Mars Orbiter Mission (Mangalyaan), Chandrayaan 1, 2, and 3, XpoSat, and solar mission Aditya-L1.

Upcoming Developments in ISRO

- **Ambitious Future Missions**

- A sample return mission from the Moon
- A mission to Venus
- Establishing an Indian space station
- Manned Moon mission

- **New Infrastructure – Third Launch Pad**

- Approved by the Indian Cabinet at an estimated cost of **₹3,984.86 crores** over four years. Designed to support **NGLV and human spaceflight missions**. It will enhance **LVM3 launch capacity**, boosting ISRO's capability for **heavy commercial missions**

Current Affairs - 30 January 2025

KANHA TIGER RESERVE



- Kanha Tiger Reserve, also called Kanha National Park, is located in the Mandla and Balaghat districts of **Madhya Pradesh**.
- It is the **largest national park of Madhya Pradesh**.
- It lies within a series of plateaus in the **Maikal hills**, east of the Satpura range.
- It was created on June 1, 1955, and in 1973, it was made the Kanha Tiger Reserve.
- It sprawls over an area of 940 sq.km.
- It is characterized mainly by forested shallow undulations, hills with varying degrees of slopes, plateaus and valleys.
- The forest depicted in the famous novel by **Rudyard Kipling**, **The Jungle Book**, is thought by some to be based on jungles, including this reserve.
- The region is known for some of the **ancient tribal communities**, like the **Gond and Baiga**, which still inhabit the region.
- It is also the **first tiger reserve in India to officially introduce a mascot, "Bhoorsingh the Barasingha"**.

Flora: It is primarily a moist **Sal and moist mixed deciduous forest** where Bamboo, Tendu, Sal, Jamun, Arjun, and Lendia flourish.

Fauna:

- It has a significant population of **Royal Bengal Tiger, leopard, sloth bear**, and Indian wild dog.
- It is respected globally for saving the **Barasingha (the State animal of Madhya Pradesh)** from near extinction, and has the unique distinction of harbouring the last world population of this deer species.