BRICS is a platform for Global South, says Modi

Prime Minister reaches Johannesburg, takes part in leaders' retreat attended by Presidents Xi Jinping, Lula da Silva and Cyril Ramaphosa; Vladimir Putin to join via video-conference today

Kallol Bhattacherjee
NEW DELHI

The BRICS grouping has become a platform for discussing the challenges facing the Global South, Prime Minister Narendra Modi said before leaving for South Africa, where he is expected to meet with Chinese President Xi Jinping for the first time since their brief encounter at the G-20 Bali summit last November.

Mr. Modi, who landed in South Africa's Waterkloof Air Force Base on Tuesday, ahead of the BRICS summit to be held in Johannesburg, was received by South Africa's Deputy President Paul Mashatile.

"BRICS has been pursuing a strong cooperation agenda across various sectors. We value that BRICS has become a platform for discussing and deliberating on issues of concern for the entire Global South, including development imperatives and reform of the multilateral system," said Mr. Modi in a statement issued before his departure.

Strategic visit: Prime Minister Narendra Modi being welcomed upon his arrival in Johannesburg on Tuesday. PTI

Mr. Xi and Brazilian President Luiz Inacio Lula da Silva, who both arrived a day earlier, attended a BRICS business forum meeting along with South African President Cyril Ramaphosa and Mr. Modi before leaving for a Leaders Retreat and will attend the day-long BRICS summit on Wednesday.

The 15th BRICS summit is the first in-person meet since 2019 and the COVID-19 pandemic, the first since the Russian war in Ukraine, and the first time that Mr. Modi and Mr. Xi will take part in such a restricted gathering of just four leaders since the LAC stand-off began in 2020.

Russian President Vladimir Putin will take part in the summit via video-conference while his Foreign Minister Sergey Lavrov will officiate at BRICS events, which include an outreach event with African Union countries and other invitees from the Global South. The Johannesburg meeting has additional significance as it will discuss expansion of the grouping by including countries like Iran, Bangladesh and other developing economies.

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BRICS is a platform for Global South, says Modi

"I look forward to interacting with a number of guest countries that have been invited to participate in this event," said Mr. Modi. From Johannesburg, Mr. Modi will fly to Athens at the invitation of Greek Prime Minister Kyriakos Mitsotakis. Mr. Modi's visit to Greece will be the first Prime Minister-level meeting from India to Athens in four decades.

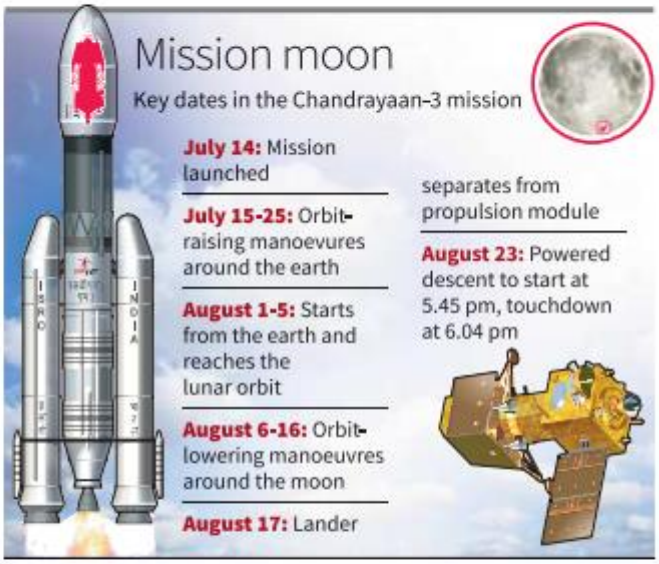
Chandrayaan-3 lander all set for touchdown today

Hemanth C.S.
BENGALURU

Four years after its predecessor crashed on the lunar surface minutes before touchdown, Chandrayaan-3's lander module with the rover in its belly will attempt to land on the moon at 6.04 p.m. on Wednesday.

Around 5.45 p.m., the Mission Operations Complex (MOX) at ISRO Telemetry, Tracking, and Command Network (ISTRAC), Bengaluru, will initiate the powered descent of the lander module.

ISRO on Tuesday said the mission was on schedule with systems checks being carried out by scientists and engineers. "The mission is on schedule. Systems are undergoing regular checks. Smooth sailing is continuing. The Mission Operations Complex [MOX] is buzzed with energy & excitement!," it posted on X (formerly Twitter). If all goes as per plan, the lander would make a safe and soft landing on the moon and would make India the fourth country to achieve this feat after the U.S., Russia, and China.



The complex powered descent of Chandrayaan-2 was referred to as "15 minutes of terror" by the then ISRO Chairman K. Sivan. It can be recalled that Chandrayaan-2's Vikram lander almost evaded this but it gave up at an altitude of 2.1 km before touchdown and subsequently lost communication with the ground stations.

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Chandrayaan-3 lander all set for touch down

However, with Chandrayaan-3, ISRO has made several changes to make the mission a success, which include strengthening of the landers' legs, reduction in the number of engines, increasing the quantity of propellant, and inclusion of new sensors.

Earlier this month, ISRO Chairman S. Somanath said that even if all sensors fail while attempting to make the soft landing, the lander would still be able to land provided that the propulsion system works.

He added that this time they have made all the systems more robust and have changed the guidance design and introduced newer algorithms.

A few hours after the landing, the rover will be deployed to carry out an in-situ chemical analysis of the lunar surface during the course of its mobility. The lander and the rover with a mission life of one Lunar day (14 earth days) have scientific payloads to carry out experiments on the lunar surface.

The Chandrayaan-3 mission was launched on July 14 from the Satish Dhawan Space Centre in Sriharikota. Since then, earth-bound manoeuvres, crucial trans-lunar injection (TLI), lunar orbit insertion, orbit reduction manoeuvres have been carried out along with the separation of the propulsion module and the lander module.

T.N. plans to set up centre for advanced manufacturing

Centre aims to support companies in their innovation, sustainability, and R&D endeavours. State govt. and World Economic Forum host discussion on establishing the facility in Chennai

The Hindu Bureau
CHENNAI

The Tamil Nadu government in collaboration with the World Economic Forum, hosted a public-private discussion for establishing the 'India Centre for Advanced Manufacturing' in Chennai. Proposed as an initiative to foster national and international collaboration in advanced technologies, the India Centre for Advanced Manufacturing aims to support companies in their innovation, sustainability, and R&D endeavours. Drawing on the global expertise of the World Economic Forum and the insights of Guidance Tamil Nadu into local priorities, the State government intends to set up the centre in Chennai.

The discussion highlighted three key focus areas for the Centre – technology adoption and innovation, industry-academia engagement, and sustainable production. Participants from various sectors, including electronics, automobile, and general manufacturing, actively engaged in the dialogue alongside representatives from government bodies.

Minister for Industries, Investment Promotion, and Commerce T.R.B. Rajaa speaking at an event in Chennai on Tuesday.

T.R.B. Rajaa, Minister for Industries, Investment Promotion, and Commerce, expressed the government's commitment to establishing the India Centre for Advanced Manufacturing in partnership with the World Economic Forum. He emphasised Tamil Nadu's pioneering role in leading India's economic growth and positioning itself as a forerunner in the Fourth Industrial Revolution.

The centre's three-fold objectives were also outlined by the Minister, which include: Supporting high-end innovation, new business models, and digital transformation for manufacturing companies, including SMEs; promoting industry-academia collaboration, workforce upskilling, and research and development, and facilitating system-wide collaborations to support supply chain decarbonisation and circularity.

Tamil Nadu had already established three Centers of Excellence in collaboration with Siemens, G.E., and Dassault Systemes, providing vital support to start-ups and MSMEs to enhance their competitiveness in both local and global markets. Industrial Innovation Centres (IICs) have been set up at SIPCOT Parks in Sriperumbudur and Hosur to foster industrial innovation and accelerate technology adoption. To enhance the State's capabilities and attract critical industries like semiconductor, green hydrogen, and solar PV module manufacturers, the Government is actively considering setting up knowledge parks in major cities in partnership with international research institutes.

'State has attracted investment proposals worth ₹2.97-lakh cr.'

241 such proposals, including those of Mitsubishi and Pegatron, were received in the manufacturing sector during the past two years, says CM

The Hindu Bureau
CHENNAI

During the past two years, Tamil Nadu attracted a total of 241 investment proposals to the tune of ₹2.97 lakh crore in the manufacturing sector, Chief Minister M.K. Stalin has said.

At a virtual meeting of the Chief Minister's Economic Advisory Committee, he said that the proposals include those of Mitsubishi, Pegatron and Ola.

Mr. Stalin said many investment proposals had also been received in the non-leather footwear industry sector, which could potentially provide increased employment opportunities for women. Proposals were also received in the e-vehicles sector.

The Chief Minister also underlined the State's notable progress in the electronics sector.

Chief Minister M.K. Stalin speaking at the virtual meeting of the CM's Economic Advisory Committee. SPECIAL ARRANGEMENT

Job opportunities

"I strongly believe that when these efforts emerge successful, there would be more employment opportunities for the youth from Tamil Nadu," Mr. Stalin said. Citing data from the State Planning Commission, the Chief Minister underlined the positive impacts of the *Makkalai Thedi Maruthuvam* scheme.

Over 27 lakh students have benefited from the *Illam Thedi Kalvi* scheme so far and over 13 lakh students from the *Naan Mudhalvan* scheme for skill development, he said, adding that under the *Pudhumai Penn* scheme, over 1.50 lakh girls have benefited.

The *Kalaignar Magalir Urimai Thogai* scheme, scheduled to be launched on September 15, would not only aid women's livelihood but also boost their self-respect, Mr. Stalin said. Members of the panel - Nobel laureate Esther Duflo, former RBI Governor Raghuram Rajan, former Chief Economic Adviser Arvind Subramanian, development economist Jean Drèze and former Union Finance Secretary S. Narayan - were present.

Besides them, Minister Thangam Thennarasu, Chief Secretary Shiv Das Meena and senior officials were present.

NASA, ESA to support moon landing today

The ground stations of National Aeronautics and Space Administration and European Space Agency have been supporting Chandrayaan-3 mission from the time of the launch; back-up support is common during the key moments of a space mission, says ground operations engineer at ESOC

Hemanth C.S.
BENGALURU

Since the launch of the Chandrayaan-3 mission on July 14, the ground stations of the National Aeronautics and Space Administration (NASA) and the European Space Agency (ESA) have been supporting Indian Space Research Organisation (ISRO) to monitor the spacecraft's health.

"Since the launch of Chandrayaan-3, ESA has been supporting the mission by utilising two of the ground stations in the ESTRACK network to track the satellite in its orbit, receive telemetry from the spacecraft and forward it to the Mission Operations Centre in Bengaluru, and forward commands sent from Bengaluru to the flying satellite," Ramesh Chellathurai, ground operations engineer at European Space Operations Centre (ESOC) Darmstadt, Germany, told *The Hindu*.

The ESA's 15-metre antenna in Kourou, French Guiana, and the 32-metre antenna belonging to Goonhilly Earth Station, U.K., were selected for the support.

"These two stations have been communicating with the Chandrayaan-3 mission on a regular basis, providing a communication channel between the Mission Operations Team in Bengaluru and Chandrayaan-3," he said.

An illustration showing the soft-landing of Chandrayaan-3 on the surface of the moon. PTI

Now, with the Chandrayaan-3's lander making an attempt to touch down on the lunar surface on August 23, the support of the ground stations of these agencies becomes crucial.

The ESA's 35-metre deep space antenna in New Norcia, Australia, a third ground station in the ESTRACK network, has been set-up to track and communicate with the lander module during the lunar descent phase. The New Norcia antenna will serve as a back-up for ISRO's own ground station during the descent. It will receive information about the lander module's health, location and trajectory in parallel with ISRO.

"It will be this telemetry that is used to confirm the success of the landing. This type of back-up support is common during the key moments of a space mission, such as a landing. After a successful landing, data collected by the mission's rover will be routed via the lander module to the ground stations. These valuable scientific data will be received by the antennas in Kourou and Goonhilly and forwarded to the Mission Operations Centre in Bengaluru," Mr. Chellathurai said.

As far as NASA is concerned, its Deep Space Network is providing telemetry and tracking coverage during the powered descent phase from Deep Space Station (DSS)-36 and DSS-34 at Canberra Deep Space Communications Complex followed by DSS-65 at Madrid Deep Space Communications Complex.

"We receive the telemetry from the spacecraft that has the data on the health and status as well as instrument measurements and pass them on to ISRO in practically real-time," Sami Asmar, Jet Propulsion Laboratory's Interplanetary Network Directorate Customer Interface Manager, said.

Understanding the failure of Luna 25

How did the lunar mission fail? Have the international sanctions on Russia due to the Ukraine invasaion played a role in the failure of the mission? Why couldn't the Russia space agency rescue the lander? What is next for Russia's lunar missions?

EXPLAINER

Vasudevan Mukunth

The story so far:

On August 11, Roscosmos, the Russian space agency, launched its Luna 25 spacecraft onboard a Soyuz 2 rocket. Luna 25 consisted of a lander and its mission was to soft-land near the moon's south pole and study the properties of lunar soil and the atmosphere. But on August 20, Roscosmos stated that Luna 25 had suffered a glitch and crashed on the moon's surface the previous day, ending the mission in a failure.

Why did Russia launch Luna 25?

The Luna 25 mission has been in the works for more than two decades. It was initially called Luna-Glob and the name was later changed to make the mission a part of the Luna series, the last edition of which was launched in 1976. In its statement, Roscosmos said one of the mission's purposes was to "ensure Russia's guaranteed access to the moon's surface" – an allusion to the growing importance of the moon as a spaceflight destination. While Russia and China are together leading the International Lunar Research Station (ILRS), versus the U.S.-led Artemis Accords, Russia has not executed a successful interplanetary mission in 34 years now.

Some experts have also said that Russia intended Luna 25 as President Vladimir Putin's demonstration that the country's economy – including the spaceflight sector – hasn't buckled under the weight of international sanctions following Mr. Putin's invasion of Ukraine in 2022.

Were the two missions in a race?

Too many details are misaligned to expect that Luna 25 and Chandrayaan 3 were in a race. Both missions were launched in a similar timeframe and were expected to attempt a soft-landing on the moon within days of each other. However, these mission parameters are determined by the launch vehicle, the mass of the spacecraft, the earth-moon trajectory, and availability of sunlight at a point on the moon. In addition, while Chandrayaan 3 has been in development since 2019, Roscosmos was working on Luna 25 since the early 2010s. Both missions also suffered delays due to the COVID-19 pandemic. Finally, recall that Russia pulled out of building the lander for Chandrayaan 2 due to delays imposed by the failure of the former's Fobos-Grunt mission in 2011. Roscosmos and the Indian Space Research Organisation (ISRO) have otherwise been partners; the former is also helping train Indian astronauts for the Gaganyaan mission.

Therefore, Luna 25 and Chandrayaan 3 couldn't have been in a race.

Glitch in space: The Soyuz-2 rocket with the moon lander Luna 25 takes off on August 11. AP

What happened to Luna 25?

In its statement, Roscosmos said that it would put together a committee to investigate the precise mode of failure of Luna 25. Beyond that, it has only said that the spacecraft suffered a technical problem that took its operation beyond the parameters within which the mission was designed to operate.

Speculation on social media platforms by spaceflight experts has centred on one event: that as Luna 25 attempted to modify its circular orbit around the moon to a lower pre-landing orbit, it applied more thrust than required, sending it careening to the surface. Roscosmos itself lost contact with Luna 25 as it was performing this manoeuvre, suggesting that the manoeuvre took it out of lunar orbit. Roscosmos Director-General Yury Borisov has said that an engine that was supposed to fire for 84 seconds did so for 127 seconds instead.

Why couldn't Roscosmos rescue it?

At the moment, NASA and the European Space Agency are helping ISRO track Chandrayaan 3 around the moon. Their antennae will maintain contact with the 'Vikram' lander as it attempts its soft-landing on August 23. But after Russia invaded Ukraine, it lost the goodwill of many countries worldwide, provoking economic sanctions. One less-known consequence was that Russia lost its privilege to use satellite tracking systems operated by countries in different parts of the world. As a result, Roscosmos could contact Luna 25, and receive signals from the spacecraft, only at three stations: two in Russia and one in Russia-annexed Crimea.

In other words, Roscosmos could communicate with Luna 25 only when the moon was directly over Russia. So the size of the window that scientists had to fix the problem and salvage the mission was much smaller. They did attempt to contact the lander in this window but it didn't respond.

What next for Russia?

Whatever the technical reasons for Luna 25's failure, it's clear that Russia is falling behind vis-à-vis going to the moon. Before the ILRS, Russia had joined hands with NASA to build a near-moon space station. But even before it backed out of the partnership in 2021, its role in the enterprise was found to be highly limited.

Under ILRS, Roscosmos has already planned for Luna missions 26 and 27 as part of the first phase of operations, which include technology demonstration and site selection for future lander missions. Now, with the failure of Luna 25 and the sanctions imposed by Western countries – which will limit the components that Russia can import – their respective launch dates could be pushed further from 2027 and 2028. So in the ILRS as well, Russia's role may become limited.

THE GIST

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On protecting the biodiversity of the northeast

To aim for a 10 trillion-dollar economy, without protecting India's environment, is a goal not worth pursuing

LETTER & SPIRIT

Om Pandey

Fostering tourism, undertaking construction projects and developing infrastructure are ways through which a State generates revenue and creates employment opportunities. However, some of them come at a steep environmental cost. In the recent case of *Re: Cleanliness of Umiam Lake versus State of Meghalaya* (2023), the division Bench of Chief Justice Sanjib Banerjee and Justice W. Diengdoh, in its order, stated that "In the absence of any other employment opportunities and in the name of promoting tourism, the natural beauty of the State should not be destroyed".

The Meghalaya High Court was hearing a Public Interest Litigation (PIL) on the cleanliness of the Umiam Lake. The court in its observation of the Meghalaya Waterbodies (Preservation and Conservation) Guidelines, 2023, said that they did not deal with the "most serious aspect of buildings and construction mushrooming around waterbodies".

The biodiverse northeast India

Northeast India is a green belt region due to its abundant natural resources such as oil, natural gas, minerals and fresh water. The Garo-Khasi-Jaintia hills and the Brahmaputra valley are some of the most important biodiversity hotspots.

Though the northeast is industrially backward, deforestation, floods, and existing industries are causing serious problems to the environment in the region. An environmental assessment of the North East Rural Livelihood Project undertaken by the Ministry of Development of the North-eastern Region lays out that "Northeast India lies within ecologically fragile, biologically rich region, highly prone to climatic changes, located in trans boundary river basins. Both flora and fauna of the areas are under threat due to deforestation, mining, quarrying, shifting cultivation."

Environmental laws

Thus far a considerable number of environmental laws and policies have been developed in the country, especially during the 1980s. Offences related to or against the environment have also taken the shape of "public nuisance" under Sections 268 to 290 of the Indian Penal Code (IPC), 1860, dealing with pollution of land, air, and water. However, as the Sixth Schedule of the Constitution grants autonomy to District Councils, it limits the authority of the State over matters pertaining to the jurisdiction of the District Councils, including the use of land. In many instances, like in the case of the Umiam Lake, the District Councils do not place any regulations for the preservation and protection of land, especially those around waterbodies.

PILs and judicial activism encouraged under Articles 32 and 226 of the Constitution led to a wave of environmental litigation. For example, the National Green Tribunal imposed a fine of ₹100 crore on the Meghalaya State government for failing to curb illegal mining in 2019. It also imposed a fine of ₹200 crore on the Manipur government for improper waste management in 2022. The enforcement of strict guidelines and imposition of heavy penalties by judicial and quasi-judicial organs of the State, often rescue the ecologically sensitive flora and fauna of these regions.

The pressing priority

Central and State governments have to develop infrastructure, generate revenue and create employment through sustainable policies. The 'Negative List' in the North East Industrial Development Scheme (NEIDS), 2017 is a step in the right direction. If an entity is not complying with environment standards; not having applicable environmental clearances; does not have consent from the concerned pollution boards, it will not be eligible for any incentive under the NEIDS and will be put on the 'negative list'.

Similarly, the 'Act Fast for Northeast' policy should not only include "trade and commerce" but also the preservation of "environment and ecology" in the region. To aim for a 10 trillion-dollar economy, without protecting India's environment, is a goal not worth pursuing. The government should consider the case of creating a uniform environmental legislation, which caters to environmental issues at all levels of governance.

The writer reads law at RGNUL.