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## GS 2: INTERNATIONAL RELATIONS

### THE HINDU PAGE : 6

# 'Maritime security is of primordial importance to Indian Ocean Region'

Any disruption in the Indian Ocean will have a deep impact on the economy across the region, says Sanjiv Ranjan, Secretary-General of the Indian Ocean Rim Association; India chairs the 23-nation grouping; a summit marking its 30th anniversary is expected to be held next year, he adds

**Suhasini Haidar**  
NEW DELHI

Navigating maritime security in the wake of the war in West Asia will be at the top of the agenda as India chairs the 23-nation Indian Ocean Rim Association (IORA), with a leaders' summit expected next year, says the organisation's Secretary-General Sanjiv Ranjan.

In addition to raising the profile of the IORA, the government is expected to focus on the specific challenges arising from the war in West Asia, including the violence in the region and the Hormuz Strait blockades by Iran and the U.S.

Last week, Mr. Ranjan had co-hosted the Indian Ocean Dialogue in Delhi, which was attended by Ministers from India, Mauritius and Yemen, besides representatives from both Iran and the United Arab Emirates.

Speaking to *The Hindu*, he said while bilateral differences are not discussed at the grouping, the Gulf war has raised issues of "primordial importance" for the IOR countries.

"The increasing realisa-

tion from the contemporary situation is that maritime safety and security is of primordial importance for our energy security, our food security, [and] many livelihoods, which are involved as a result of the developments in Indian Ocean littoral areas," he said, referring to all countries with coastlines on the Indian Ocean.

#### Two-day dialogue

Delivering a keynote address to the two-day dialogue, Mauritius Foreign Minister Dhananjay Ramful said that the "ideal of the Indian Ocean as a zone of peace" has been negated and "war has come" to the ocean. Mr. Ramful called the U.S.'s sinking of the Iranian naval ship *IRIS Dena*, in which 100 sailors were killed in March, as "outrageous" and also expressed concern over retaliatory Iranian attacks using Intermediate Range Ballistic Missiles (IRBMs) on the U.S.'s Diego Garcia base on Mauritius's Chagos Islands.

"They might not have reached their target, but they have nonetheless breached our comfortable



IORA Secretary-General Sanjiv Ranjan says member countries have seen fuel prices rise considerably due to war. SHIVKUMAR PUSHPAKAR

status quo. They have introduced in our region of the Indian Ocean an intent of aggression hitherto unknown," Mr. Ramful added.

According to the IORA charter, "bilateral and other issues likely to generate controversy and be an impediment to regional cooperation efforts will be excluded from deliberations". However, they will discuss the "socio-economic" impact of the conflict in talks on eight priority areas: maritime safety and security, trade and investment, fisheries management, disaster risk management, tourism, cul-

[due to the war] situations where fisherman are unable to go out to the sea for fishing will affect livelihoods," Mr. Ranjan told *The Hindu*.

The IORA Summit in 2027 will mark the organisation's 30th anniversary, said Mr. Ranjan, adding that the last time such a summit had been held was in 2017, when Indonesia marked the IORA's 20th anniversary in Jakarta. In the run-up to that, India will host the Senior Officials Meeting, in June this year, while the IORA Council of Ministers would meet towards the end of 2026.

#### Series of meetings

The Indian Ocean dialogue, which was a "track 1.5" conference for officials, academics and experts, co-hosted by the IORA and the Ministry of External Affairs and organised by the Indian Council of World Affairs (ICWA), will kick off a series of meetings expected over the coming year, as India seeks to recharge the IORA.

The grouping was formed in 1997 with former South African leader

Nelson Mandela amongst those leading it. However, the IORA has not received the relevance that other regional groupings have, such as the now-defunct SAARC, BIMSTEC, SCO or Quad, over three decades.

In addition to its salience in India's MAHASAGAR maritime policy and Indo-Pacific strategy, the IORA is less contentious for India as Pakistan has never been admitted to its ranks. Pakistan had requested membership in the early 2000s, but the fact that it refused to grant India "MFN status" for trade violated the IORA charter that calls for "sovereign equality" or equal treatment of all states, according to officials.

The Indian Ocean Rim Association (IORA) currently comprises 23 member states, including Australia, Bangladesh, Comoros, France, India, Indonesia, Iran, Kenya, Madagascar, Malaysia, Maldives, Mauritius, Mozambique, Oman, Seychelles, Singapore, Somalia, South Africa, Sri Lanka, Tanzania, Thailand, the United Arab Emirates, and Yemen.

## GS 2: INTERNATIONAL RELATIONS

### THE HINDU PAGE : 8

# Advancing India-South Korea defence innovation ties

Since establishing diplomatic relations in 1973, India and South Korea have maintained defence ties. Their first formal agreement, the 2005 MoU on Defence Industry and Logistics, promoted cooperation in production, research and development, and procurement. Subsequently, they signed separate five-year memoranda of understanding on defence cooperation and defence research and development (R&D) in 2010.

The first enabled exchanges of expertise, training, visits and joint exercises, while the second focused on emerging technologies such as marine, electronics, and intelligent systems through links between India's Defence Research and Development Organisation (DRDO) and the South Korean defence industry. In 2015, the partnership was elevated to a Special Strategic Partnership.

Furthermore, the 2020 Roadmap for Defence Industries Cooperation expanded engagements into key areas, such as land, naval, aero, and guided weapon systems, along with investments and technology transfer in India's defence industrial corridors. A notable outcome of this partnership is the K9 Vajra-T self-propelled artillery system, manufactured in India by Larsen & Toubro (L&T) and Hanwha Aerospace, South Korea under the 'Make in India' initiative, whose success led to a follow-on production contract.

#### The new platform

On April 20, 2026, at the India-South Korea Summit between Prime Minister Narendra Modi and President Lee Jae Myung, a new defence innovation platform called the Korea-India Defence Accelerator (KIND-X) was announced.

As part of the Joint Strategic Vision, KIND-X aims to connect businesses, incubators, investors, defence start-ups, and universities from both sides. KIND-X is not a new model of cooperation for India.

It mirrors similar defence industrial innovation bridges with the United States under INDUS-X (India-U.S. Defense Acceleration Ecosystem) and with France under FRIND-X (France-India Defence Startup Excellence). There have also



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been suggestions to create an INDUS-X-like model with South Korea. Drawing on these existing models, KIND-X is expected to be led by South Korea's Defense Acquisition Program Administration (DAPA) and India's Defence Innovation Organisation (DIO). Both countries run defence innovation programmes to strengthen their defence start-up ecosystems, such as South Korea's specialised innovation enterprise system and India's Innovations for Defence Excellence (IDEX).

According to India's Ministry of External Affairs special briefing on April 20, 2024, KIND-X is expected to align with the 2020 Roadmap for Defence Industries Cooperation.

#### What can be unlocked

What can KIND-X unlock? KIND-X can emerge as the "defence innovation bridge", expanding defence R&D, innovation, co-development and co-production, involving startups, investors, universities, academia, and think tanks, essentially creating a joint defence innovation and industrial ecosystem from both countries. This may involve release of joint challenges and grants by DAPA and DIO for their respective startups to innovate defence technologies in the areas envisaged under the 2020 road map.

It may facilitate access to testing facilities through universities and laboratories in both countries, promote joint certification and standardisation processes, and support accelerator and incubator programmes connecting investors and innovators from both sides. It may also include workshops to help stakeholders navigate each other's markets and production systems. These workshops can address export control regimes, funding models for defence production, and intellectual property and licensing requirements related to technology transfer for co-production and co-development.

An annual summit, similar to the INDUS-X summit, could convene high-level representatives from defence ministries, industry, universities, think tanks, and academia in Seoul, New Delhi, and other industrial hubs. The KIND-X summit could also convene Track 1.5 dialogues to

emphasise the strategic rationale for bilateral defence cooperation, foster networking, and periodically assess progress on deliverables under the initiative.

The success of KIND-X will depend on leveraging existing co-production ventures such as the K9 Vajra-T howitzers by L&T and Hanwha Aerospace to create templates for future defence projects. It will connect South Korea's innovation clusters in Changwon, Daejeon, and Gumi with India's defence corridors in Tamil Nadu and Uttar Pradesh, and with aerospace hubs in Bengaluru, Chennai, and Hyderabad. Involving major firms such as Hyundai, L&T, Tata Advanced Systems Limited, Mahindra, Bharat Forge, Hanwha, LIG, and Kangnam, alongside start-ups and R&D ecosystems, can further expand linkages.

#### As an innovation bridge

The launch of KIND-X as a defence innovation bridge signals both governments' keenness to unlock their respective deep-tech innovation ecosystems to develop dual-use technologies. With deepening ties across other strategic sectors such as shipbuilding, artificial intelligence, space, critical minerals, and semiconductors, KIND-X can complement and draw on convergences in these sectors for defence.

Aligning with India's Defence Forces Vision 2047 and South Korea's Defence Innovation 4.0 strategy, and co-investing in emerging and future technologies will be key to making this initiative forward-looking. Potential areas under KIND-X include Artificial Intelligence platforms for military applications, autonomous weapon systems and robotics, joint development of satellites for space-based intelligence, surveillance, and reconnaissance (ISR), Space Situational Awareness (SSA), communication and navigation, critical mineral supply chains, and defence semiconductor fabs. Given both countries' growing defence exports, KIND-X can emerge as an important facilitator.

The onus is now upon both defence ministries to curate tangible deliverables under KIND-X, clarifying its steering template, funding mechanisms and areas of joint innovation.

KIND-X can help deepen bilateral defence research and development, co-production, and start-up collaboration



## GS 2: INDIAN POLITY

### THE HINDU PAGE : 10

# Governor's role in govt. formation

What does Article 164(1) say about the appointment of the Chief Minister? When does the Governor use discretionary powers? Which commissions recommended guidelines for government formation in a hung Assembly? Why has the conduct of Governors in hung Assemblies raised concerns?

#### EXPLAINER

Rangarajan R.

#### The story so far:

The Tamilaga Vettri Kazhagam (TVK) secured 108 seats, 10 short of a majority, in the recently concluded Tamil Nadu Assembly elections. After hectic parleys with smaller parties, letters of support from 120 members were provided to the Governor. The Governor then invited TVK chief C. Joseph Vijay to form the government, who was sworn in as Chief Minister.

#### What are constitutional provisions?

Article 164(1) of the Constitution provides that the Chief Minister of a State shall be appointed by the Governor, while other ministers shall be appointed by the Governor on the advice of the Chief Minister. When a single party secures a clear majority in the Assembly, the Governor invites the leader of that legislative party to form the government. If no party secures a majority, the Governor exercises his/her discretion in appointing the Chief Minister.

The Constitution does not prescribe any criteria for selecting the Chief Minister in the event of a hung Assembly. The Sarkaria Commission (1987), followed by the Panchhi Commission (2010), recommended the manner in which the Chief Minister may be appointed in case no party enjoys a majority in the Assembly. The order of preference indicated by these commissions is as follows – first a pre-poll alliance that enjoys majority; next the single largest party staking a claim to form the government with the support of others; then a post-electoral coalition of parties, with all partners in the coalition joining the government; and finally, a



Fresh start: Tamil Nadu Governor Rajendra Arlekar with Chief Minister C. Joseph Vijay, on Sunday, PTI

post-electoral alliance with some parties joining the government and the remaining parties supporting the government from outside.

#### What are the issues?

The recommendations of the above commissions and conventions require Governors to act in a bipartisan manner while selecting the Chief Minister in a hung Assembly. However, Governors have, on numerous occasions, appointed Chief Ministers without following any particular order.

For instance, after the Assembly elections in Goa (2017) and Manipur (2017), the Governors invited BJP-led post-poll alliances to form the government, even though the Congress had emerged as the single largest party. These governments later proved their majority in the Assembly. On the contrary, in Karnataka (2018), the Governor invited the BJP, as the single

largest party, to form the government over a claim by the post-poll alliance of Congress and Janata Dal (Secular). In 2019, the Governor of Maharashtra appointed a BJP-led coalition government when there was uncertainty as to whether it enjoyed a majority. On both occasions, the Chief Ministers had to resign as they were unable to muster the required majority.

Under the Constitution, the Governor is the nominal head of the State executive and possesses certain discretionary powers in specific situations. The discretion vested in the Governor to select a Chief Minister in a hung Assembly is to enable him/her to appoint a government that would be stable and enjoy the majority in the Assembly. However, the conduct of Governors in several such situations has raised concerns that they often function more as agents of the Union government than as impartial constitutional heads of the States.

#### What can be the way forward?

In the current situation in Tamil Nadu, TVK was the only party to stake a claim to form the government. The Governor's office indicated that, since the claim was a post-poll alliance, it was essential to validate whether the formation enjoyed the majority support of 118 members. However, the constitutional requirement for a government is to have the support of the majority of members present and voting in the Assembly. The majority of 118 in the Tamil Nadu Assembly is based on the full strength of the 234-member Tamil Nadu Assembly and does not account for possible abstentions during the vote.

The Supreme Court in the *S. R. Bommai v. Union of India* (1994) had categorically held that the 'floor of the House' is the constitutionally ordained forum for testing the majority support enjoyed by a government. This was reiterated in the Rameshwar Prasad case (2006).

The use of discretionary powers by the Governors has been subject to various court pronouncements. Nevertheless, judicial differences in interpretation resulted in inconsistent application of these principles.

The recent Justice Kurian Joseph Committee report on Union-State relations, constituted by the earlier Tamil Nadu government, recommended incorporating a new schedule into the Constitution to codify the rules governing the Governor's use of discretionary powers. This may be considered to provide a constitutional basis for the use of such discretionary powers. It is imperative that the Governors exercise their discretionary powers in a bona fide manner.

(Rangarajan R is a former IAS officer and author of 'Polity Simplified'. He currently trains civil-service aspirants at 'Officers IAS Academy'. Views expressed are personal)

#### THE GIST

The Constitution allows the Governor to exercise discretion in appointing a Chief Minister in a hung Assembly, but differing interpretations and past instances have raised concerns over the impartial use of these discretionary powers.

The Supreme Court has held that the 'floor of the House' is the constitutionally ordained forum to test majority support, while the Justice Kurian Joseph Committee recommended codifying rules relating to the Governor's discretionary powers.

GS 3 : ENVIRONMENT  
THE HINDU PAGE : 10

# What measures are needed to address Delhi's heat crisis?

What structural changes are required to reduce extreme heat? How can urban planning help?

Suksham Tanu  
Amir Hyder Khan

**The story so far:**

Delhi and the NCR are facing longer and more intense heatwaves, with the city increasingly retaining heat even at night. Rapid urbanisation, concrete-heavy infrastructure, air conditioning, and shrinking green cover have turned the Urban Heat Island Effect into a deeper "heat re-trap".

**Why is Delhi retaining heat?**

This transformation is rooted in the city's material logic. Concrete, asphalt, steel, and glass dominate Delhi NCR's expansion. These materials absorb heat efficiently but release it slowly.

Roads, rooftops, and facades accumulate heat through the day and emit it at night, delaying cooling. Surface temperatures in dense areas reach 50-60°C on peak afternoons. These surfaces act as reservoirs, keeping the surrounding air warm well into the night. The city, in effect, stores the sun.

Glass-heavy architecture in areas such as Gurgaon and Noida worsens the problem by allowing solar radiation indoors, increasing reliance on air conditioning rather than reducing heat.

Vehicular activity adds constant thermal input. Corridors like NH-48 function as continuous heat sources, where engines and exhaust combine with heat-absorbing asphalt to create persistent hotspots. Over time, these form into thermal corridors that reshape the city's microclimate.

At the same time, Delhi struggles to release heat. High-density construction and narrow streets restrict airflow, while traditional cooling features – courtyards, shaded pathways, ventilation corridors – have largely disappeared. As a result, air stagnates and heat accumulates within the city's form.

**How does cooling contribute to warming?**

While interiors are cooled, heat is expelled outdoors. In dense neighbourhoods, this raises ambient temperatures by 1-2°C.

This produces a feedback loop: rising temperatures increase the demand for cooling, which in turn releases more heat outside. The city cools itself internally while warming externally.

The energy burden is also significant. Delhi's peak electricity demand has crossed 8,000 MW during the summer, with cooling accounting for a significant share. Nationally, cooling demand is projected to grow nearly eightfold by 2050, increasing pressure on power systems and raising the risk of outages during extreme heat.

**How is heat affecting the economy and ecology?**

Factories and warehouses operate within specific temperature limits; excessive heat reduces efficiency and affects machinery. Productivity declines by 2-3% for every degree rise above optimal levels, leading to delays and higher costs.

Supply chains are also slowing as transport hours shrink and storage conditions deteriorate.

At a broader level, India loses over \$100 billion annually due to the decline in

**heat-related productivity.**

Ecologically, the city has lost natural cooling systems. Shrinking green cover, degraded wetlands, and the loss of the Yamuna floodplains have reduced evapotranspiration. Without vegetation and water bodies, Delhi's ability to regulate temperature has weakened.

**What measures are needed to address the crisis?**

Addressing this crisis requires structural change in how cities are built and managed. Materials must shift toward high-albedo surfaces, cool roofs, and reflective coatings. Buildings need insulation and passive design strategies like shading and cross-ventilation.

Urban planning must restore airflow through ventilation corridors and better street orientation. Green and blue infrastructure – including urban forests, parks, and water bodies – must expand as essential cooling systems.

Reducing heat generated by human activity is equally important. Sustainable transport, electric mobility, and improved public transit can lower vehicular emissions. Energy-efficient appliances and district cooling systems can reduce heat discharge.

Equally critical is social protection. Affordable housing upgrades, subsidised cooling, and community cooling centres are necessary to protect vulnerable populations during extreme heat.

(Suksham Tanu is a sustainability and environmental studies enthusiast based in Dubai; Amir Hyder Khan is a final-year B.Arch student at Jamia Millia Islamia)



## GS 2: INTERNATIONAL RELATIONS

### INDIAN EXPRESS PAGE : 2

UAE SAYS IT INTERCEPTED TWO IRANIAN DRONES; QATAR CONDEMNS DRONE ATTACK THAT HIT A CARGO VESSEL

# Iran: Sent response to US peace proposal

## Tehran response stresses on end to war: Reports

Reuters  
Dubai, Washington, May 10

IRAN HAS sent its response to a US proposal to begin peace talks to end the war, Iranian state media reported on Sunday, as two carriers were allowed to pass through the blockaded Strait of Hormuz.

The response, sent to mediator Pakistan, focuses on ending the war on all fronts, especially Lebanon, and on the safety of shipping through the strait. Iranian state TV said, without indicating how or when the vital waterway might reopen.

It followed a US proposal to end fighting before starting talks on more contentious issues, including Iran's nuclear program. There was no immediate US comment on the Iranian response.

After some 48 hours of relative calm following sporadic clashes last week, hostiles drones were detected over several Gulf countries on Sunday, underlining the threat still facing region despite a month-old ceasefire.

Still, the QatarEnergy-operated carrier Al Kharaitiyat passed safely through the strait and was heading for Pakistan's Port Qasim, according to data from shipping analytics firm Kpler, the first Qatari vessel carrying liquefied natural gas to cross the strait since US and Israel started war on February 23.



Members of Iranian network in South Korea stage a rally to denounce Iranian government policy near the US Embassy in Seoul, on Sunday. AP

Sources said earlier the transfer, which offered a modicum of relief to Pakistan after a wave of power blackouts caused by a halt to vital gas imports, had been approved by Iran to build confidence with Qatar and Pakistan, both mediators in the war.

In addition, a Panama-flagged bulk carrier bound for Brazil that had previously attempted to transit the strait on May 4, passed through, using a route designated by Iran's armed forces, Iran's semi-official *Tasnim* news agency reported on Sunday.

With US President Donald Trump due to visit China this week, there has been mounting pressure to draw a line under the

war, which has ignited a global energy crisis and poses a growing threat to the world economy.

But, despite diplomatic efforts to break a deadlock between the two sides and the passage of the two vessels, the threat to shipping lanes and the economies of the region remained high.

On Sunday, the United Arab Emirates said it intercepted two drones coming from Iran, while Qatar condemned a drone attack that hit a cargo ship coming from Abu Dhabi in its waters. Kuwait said its air defences had dealt with hostile drones that entered its airspace.

Tehran has largely blocked non-Iranian shipping through

the narrow Strait of Hormuz, which before the war carried one-fifth of the world's oil supply and which has emerged as one of the central pressure points in the war.

Qatari Prime Minister Mohammed bin Abdulrahman al-Thani, who discussed Pakistan's mediation efforts to end the war with US Secretary of State Marco Rubio in Miami on Saturday, told Iran's Foreign Minister Abbas Araghchi using the Strait of Hormuz as a "pressure tool" would only deepen the crisis.

He told Araghchi in a phone call that freedom of navigation should not be compromised, the Qatari foreign ministry said on Sunday.

## War could make Trump's trip to China a bit chillier than his first-term visit

Associated Press  
Washington, May 10

WEEKS BEFORE his trip to China, President Donald Trump was already predicting on social media that his Chinese counterpart, Xi Jinping, would "give me a big, fat hug when I get there."

But Beijing's deep economic ties to Iran, as well as trade tensions over tariff threats stretching back to Trump's first term, could crimp the good feelings when Trump flies to Beijing this week — even though the Republican president has for years effusively praised Xi, making it clear he sees China's leader as a competitor strong enough to warrant his respect and admiration.

Trump isn't fond of long plane rides or extended stretches away from the White House or his properties in Florida and New Jersey. He is expected to spend parts of three days on the ground in China.

There will be plenty of pomp, but the grandeur is not expected to rival Trump's first visit to China in 2017, which Beijing dubbed a "state visit-plus."

"Even before this whole conflagration with Iran, they weren't going to go state visit-plus like last time, just because things are tense," said Jonathan Czin, a former director for China at the National Security Council dur-

### • THE VISIT

- Trump arrives in Beijing on Wednesday evening, says White House.
- Thursday morning opening ceremony, state banquet in the evening.
- Trump, Xi to discuss China's support for Iran and Russia, Beijing's nuclear programme.
- US and China will work on joint board of trade and investment.
- US plans to host Xi Jinping for reciprocal visit later in 2026.

ing the Biden administration.

Trump could meet with China's leader four times in eight months. After his visit to Beijing, Trump plans to host Xi at the White House. Trump might also attend the November Asia-Pacific Economic Cooperation meeting in Shenzhen, China. And Xi could come to the Group of 20 summit the following month at Trump's resort in Doral, Florida.

Czin noted that Xi also is not very fond of travel, meaning not all of the planned encounters may happen. He said China's leader also does not "do personal connections" like the kind Trump relishes, noting Xi led a Chinese military purge in January that included replacing officials with long-standing personal ties to his family.

## GS 3: SCIENCE AND TECHNOLOGY

### INDIAN EXPRESS PAGE : 3

#### AFTER IRAN, UKRAINE CONFLICTS

# Govt targets homegrown AI systems for defence sector

Defence ministry in talks with SarvamAI, BharatGen, say officials: 'Idea is to have Indian version of Palantir soon'

Soumyendra Barik  
& Anil Sasi

New Delhi, May 10

AS THE Indian defence establishment evaluates the ongoing conflict in West Asia, a compelling need is being felt for the military to have access to domestically-made artificial intelligence (AI) systems, amid a concerted push to decouple from foreign-made technology

in strategic sectors, *The Indian Express* has learnt.

The defence ministry is currently in conversations with Indian companies like SarvamAI and BharatGen — that have built domestic AI models — on how the technology can be integrated with India's existing defence capabilities, three senior government officials said.

"The idea is to have an Indian version of Palantir as soon

as possible," an official said. To invest in a foundational model of our own has a growing strategic imperative, even if we're behind the curve, another official involved in the broader deliberations said.

The conflicts in Iran and Ukraine, where the defence forces are said to have used AI effectively to take operational decisions, have shown New

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## GS 3: SCIENCE AND TECHNOLOGY

### INDIAN EXPRESS PAGE : 4

# Homegrown AI system

Delhi that the technology can be a game changer, not just as a defensive resource, but as an offensive option as well. In the US, systems developed by the likes of Palantir were used in strikes carried out on Iran. The technology has also been used to carry out cyber attacks on digital infrastructure.

China, for instance, is rapidly integrating artificial intelligence into military operations as part of the push by the People's Liberation Army (PLA) towards what's being described as "intelligentised warfare". Chinese military planners are using AI for battlefield decision-making, autonomous drone swarms, surveillance, target recognition and command systems that can process combat data in seconds. Recent studies of PLA procurement documents show strong focus on AI-enabled command-and-control and reconnaissance systems, aimed at speeding up operations and countering US military advantages. China has also showcased AI-powered robotic "wolf pack" combat systems and autonomous drone platforms.

The key question though is whether India should rely on existing AI solutions for warfare, with the government and the country's military establishment believing that domestic options might be the better alternative for strategic sectors such as defence.

"Using American AI models to build products as wrappers on top of them might work in other business fields, but when it comes to strategic sectors, it is clearly being felt that there is a need to have our own technology, at least invest in them and build them, so that we are not reliant on something that we

source from outside," a second official said.

Even if extensively large models like those built in the US may not have been created in India so far, the military sees merit in deploying domestically-made small models for use on the ground. "Such AI can still help guide our autonomous systems for surveillance, reconnaissance and target mapping, and aid in intelligence fusion," a senior government official said.

Intelligence fusion in the military refers to the process of aggregating, analysing and integrating data from multiple sources — such as signals, imagery and human intelligence — to create a unified, actionable and real-time picture of threats. This concept is evolving into Intelligence Fusion Systems, which utilise AI and machine learning to rapidly process data, reducing the time from data collection to decision-making.

"From our conversations with local players, what we have understood so far is that the difference in models that have been built domestically by companies like Sarvam and BharatGen is not that much when compared with Deepseek, or at least the gap can be bridged, even though there might be a lag. But we need our own model, no question about that," another official said.

One of the reasons behind that is also the money involved in building AI models. General purpose large language models such as those built by companies like OpenAI and Anthropic take substantial investments, with computing alone costing close to \$200 million, and data training and annotation costs can take that figure up to \$500 million-\$600 million.

Smaller models which are tuned for specific purposes may be cheaper to build comparatively. Indian firms may also struggle in matching compute access that some of their Western counterparts have, although the government has tried to address that handicap by providing them GPUs at discounted usage rates under the India AI Mission.

Queries sent to the defence ministry and Sarvam AI did not elicit a response until publication.

What has also irked New Delhi are comments made by senior US administration officials earlier this year, where they insisted that the US expects that its allies, including India, should build their AI solutions on top of the so-called America AI stack.

To be sure, the Indian armed forces did use AI cloud-based integrated air command and control systems to detect and position any hostile objects in the sky during Operation Sindoor last year, as reported by The Indian Express. Also, during the India AI Impact Summit earlier this year, Lt General Dinesh Singh Rana, chief of the Strategic Forces Command, revealed that the Army had deployed AI predictive tools to anticipate and repulse a Chinese attempt along the Line of Actual Control (LAC) in Yangtse, Arunachal Pradesh.

There is, however, a refrain around India's hardware capabilities in these discussions, officials said. "Even if our start-ups are able to build AI-led systems for military use cases, the underlying hardware that is powering those, including the graphics processing units crucial for computing power, are currently all made by foreign companies. We don't have that level of technology at our disposal yet, but it is something that has to be ensured in the coming years," a senior government official said.