



Space Strategy for India

This editorial is based on [“India Needs A Comprehensive Space Strategy”](#) which was published in Hindustan Times on 12/02/2022. It talks about the steps that India shall take to become one of the major powers in the space sector.

For Prelims: Outer Space Treaty (OST), ISRO, Spacecom Policy 2020, Defence Space Agency (DSA), Defence Space Research Organisation (DSRO), Tiangong space station, Mission Shakti, Space Debris, Space Situational Awareness (SSA).

For Mains: India's New Spacecom Policy 2020, Making India a major space power, Countering Chinese influence in space.

India's ability to secure its use of outer space has played a major role in its growth and prosperity in the present era.

With the advent of the second space age, private NewSpace companies such as SpaceX are beginning to take the charge. However, as outlined in the [Outer Space Treaty \(OST\)](#), the existing international laws hold nation-states responsible for the actions and consequences of their private space companies, citizens, and functionaries.

It is **prudent for countries and alliances of nations to formulate strategic publications** detailing the broad direction of their space programmes. Such an initiative will **bolster inter-organisation coordination** and help build investor confidence.

Space Strategy and The World

Why is Space a Part of the Wider Strategic Context?

- Space has **overarching applications and dependencies** across almost all aspects of **civilian life and military operations**.
 - Space is emerging as a **potential fourth arm of India's defence setup**.
- With the US, Russia and China already in pursuit of becoming a Space power, India will need to equip itself appropriately to **meet emerging security challenges**.
- There is **increasing competition in the space sector**. New Zealand is positioning itself as a location for private rocket launches.
 - Singapore is offering itself as a hub for space entrepreneurship based on its legal environment, availability of skilled manpower and equatorial location.

What about India's Space Strategy?

- In 2020, the [Indian Space Research Organisation \(ISRO\)](#) released the draft of a new [Spacecom Policy 2020](#) which was approved by the union government allowing private players' participation.
- India has recently set up its **Defence Space Agency (DSA)** supported by the [Defence Space Research Organisation \(DSRO\)](#) that has the mandate to create weapons to “**degrade, disrupt, destroy or deceive an adversary's space capability**”.
- DSA is looking to acquire technologies that can evaluate threats and **maximise the effectiveness of Indian operations in space**, land, sea and air domains.

Where do Different Countries Stand in Terms of a Space Strategy?

- The **United Kingdom (UK)**, **China** and [North Atlantic Treaty Organization \(NATO\)](#) countries have published the latest iterations of their strategic publications focused on the use of space.
- **India has not yet published a comprehensive space strategy.** It may be wise for New Delhi to bring out its own strategic documents, outlining achievements, prospects and its broad approach to space.

How Influential is China in Space?

- India's progress in space exploration has gained a lot of momentum in the last few years, but it is **still behind China in ambition and execution**.
- China is the strategic adversary of India, and its **space programme's budget is almost six times higher** compared to India's.
 - India's budgetary allocations for space, execution of its projects and the dedication towards research & development are **not sufficient to compete with China in space**.
- China already has its [“Tiangong” space station](#)'s first module in orbit and is also **planning to build a near-earth object defence system** in the next five years.
 - Its latest white paper on space highlights **Beijing's willingness for international cooperation** in monitoring and responding to near-earth objects.
 - India does not have any plans for planetary defence on the horizon.

What Steps Can Be Taken?

- **Balanced Approach for Space Projects:** India needs to **avoid hyper-fixation on selected outer space projects**. Instead, there is a need for a balanced approach to **address in-orbit, Earth-to-space, and space-to-Earth applications**.
 - The NATO strategy's reference to space being of relevance “across the spectrum of conflict” is a correct articulation of the idea.
- **Engagement in International Fora:** The international community and the [United Nations General Assembly \(UNGA\)](#) are figuring out norms for responsible behaviour in outer space.
 - New Delhi's strategy should indicate that it will not only be a participant but also a key stakeholder - it is imperative to put forward India's concerns around **ensuring unrestricted access to use of space by all nations**.
- **Greater Space Situational Awareness (SSA):** Space Situational Awareness (SSA) is the **awareness of the location and activities of any space object** and the impact it can have.
 - **Transparent SSA** should also be a priority for India's strategic publication, as it augments India's capabilities across the spectrum for defence and deterrence.
 - New Delhi should express its resolve to hold its adversaries accountable with publicly available SSA data.
- **Space Debris Mitigation:** China, after facing criticisms when debris from the wreckage of its Fengyun-1C satellite threatened the International Space Station (ISS), released a white paper on space, aimed to mitigate international concerns and project China as a responsible player.
 - India faced international criticism for its 2019 [Mission Shakti](#), Direct Ascent Anti-Satellite test.
 - It can also use a prospective strategic publication on its use of space to declare that **mitigating space debris is a newfound focus**.
 - Technologies like **self-eating rockets, self-vanishing satellites and robotic arms to catch space debris** are an area of push for ISRO.
- **Establishing A Permanent Presence in Space:** ISRO has undertaken manned space flight as a

key focus area, beginning with the upcoming [Gaganyaan mission](#).

- It is of strategic and scientific significance for India to **highlight the value of human space flight missions** as well as **sustained human presence in orbit and deep space exploration**.
- Another area of relevance India should accelerate research on is **defence from near-earth objects**.
 - India should take the **initiative to cooperate with international bodies** in the short term and plan for a planetary defence program in the long term.
 - Without international cooperation, India is unlikely to catch up to China

Drishti Mains Question

Discuss the need for a comprehensive space strategy that India shall adopt to become one of the major space powers.

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