



A SPACE DOCTRINE FOR INDIA

Preamble

1. India aspires to shape a strategic environment conducive to economic development and the peaceful enjoyment of prosperity. To do so, it must be able to secure its territory, address threats before they reach India's borders, become a security provider in the region, enjoy the free movement of goods and services, and have unhindered use of the seas & outer space.
2. The ability to use space for commercial, scientific and military purposes has become a vital determinant of national power. India's growing use of space could make its space assets attractive targets for adversaries.
3. Some key technological developments make this threat a reality: (i) kinetic systems such as direct ascent and co-orbital anti-satellite weapons, (ii) non-kinetic systems such as cyber-attack and electronic warfare capabilities, as well as directed energy weapons, and (iii) supporting capabilities such as sensors and computation.
4. This threat is also exacerbated because many space-denial capabilities can be employed covertly or with deniability and in peacetime or situations short of war.
5. This doctrine lays out the principles for the development, deployment, and employment of India's space forces and its space assets' character. This document will form the basis for further developing the policy and strategy concerning force structures, deployment and employment of space forces. The document itself will go through reviews at regular intervals.

Objectives

1. India's primary objective is to preserve its use of space. Therefore, India will pursue a doctrine anchored in deterrence and requiring both defensive and offensive capabilities. These capabilities' scale and character will be subject to national security objectives, the strategic environment, and emerging technologies. India seeks to convince potential adversaries that:
 - a. Any attempt to deny India the use of space will result in a response in a manner and at a time of India's choosing.
 - b. India's response to an attack on space-based assets or forces may not be limited to space. Similarly, an attack on India's Earth-based space assets for forces may result in a response on Earth or in space.

Space Forces & Assets

1. Space forces are meant to protect the use of space. They are systems that (i) detect, repel or mitigate threats to space assets (ii) provide offensive capabilities against a potential adversary's space assets. Space forces may be based in space or on Earth. Space-based forces are those space forces that are based in space. India's space forces will be:
 - a. Versatile, encompassing a range of Earth and space-based non-kinetic and kinetic capabilities.
 - b. Vigilant, providing early warning of imminent attacks or identifying and attributing attacks already underway, whether during peacetime, crisis or conflict.
 - c. Effective at taking defensive and offensive countermeasures against imminent or ongoing attacks on Indian space assets or forces.
2. Space assets are any resources that provide civilian or military services on Earth. Space assets may be based in space or on Earth.

Terrestrial Forces

1. India's terrestrial forces will:
 - a. be capable of functioning in a space-degraded environment.
 - b. regularly train to perform in such conditions.
 - c. develop terrestrial capabilities that can act as temporary substitutes for space-based ones.

Command and Control

1. India's space forces shall operate under the political guidance of the Cabinet Committee on Security (CCS). The decision to employ space forces offensively will also reside with it. If considered necessary, segments of India's space forces and space assets may be placed under the command of the National Command Authority.
2. The command and control system must provide early warning, communications and damage assessment. The system shall also incorporate a series of highly flexible integrated operational plans that are tailored to visualised situations.
3. The command and control infrastructure must facilitate integrated planning and coordinated employment.
4. The survivability of India's space forces, its space assets and its command and control systems shall be maximised.

Research and Development

1. Space technology is rapidly evolving; therefore, India will make a concerted effort to match global developments.
2. India will leverage domestic private enterprise to develop resilient space assets and highly capable space forces.

International Cooperation

1. India believes outer space is a part of the common heritage of mankind. All nations should enjoy unhindered use of space for the long-term progress of humanity. India considers any act of space warfare to be a major escalation.
2. India is committed to protecting and maintaining space as an environment for the benefit of all humanity. It will actively engage in any discussions for treaties, accords or other agreements that seek to manage the use of outer space and mitigate the problem of debris in orbital space.
3. Space-faring states have not agreed on an overarching, non-discriminatory treaty banning space warfare. This is partly because most of the existing tools of space warfare arise out of either dual-use (civilian and military) or multi-use (more than one military purpose) capabilities, making restrictions and verification impractical. Neither of these factors is likely to change substantially in the near future.

4. While an overarching treaty may not be possible, there are two important opportunities for restraint and arms control that India will pursue:

a. India will pursue a global no-first-use pledge in which states pledge that they will not initiate the use of kinetic weapons against the space-based assets or space-based forces of an adversary. Such a pledge would help build political confidence during peacetime and could slow down the development of kinetic space weapons.

b. India proposes a global ban on the stationing of space-to-Earth weapons in space. While the Outer Space Treaty prohibits the stationing of weapons of mass destruction in space, such an agreement would extend the ban to other types of weapons, including, but not limited to, kinetic re-entry vehicles and directed energy weapons.