

India Independence Day



SCIENTIFIC PROGRESS

India's space sector: A launchpad for global partnerships

The program has been conceived as instrument of national development

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Growing competition in outer space provides India with a unique opportunity to shape a narrative in which collaboration, rather than confrontation, drives space exploration.

Recognized as a trustworthy and cost-effective spacefaring nation, India is now well placed to transform its technological advances into enduring

international partnerships that contribute to scientific progress, economic growth and sustainable development.

India's journey into space has been distinctive. Unlike many space programs that emerged from Cold War rivalries, India's program was conceived as an instrument of national development.

Dr. Vikram Sarabhai anchored India's vision for space in practical applications that would improve the lives of ordinary people. Under

his leadership, satellites were developed to enhance communications, weather forecasting, disaster management, healthcare, agriculture and education.

This development-oriented philosophy remains central to India's space program and resonates strongly with the needs of countries in the Global South, which seek practical applications of space technology rather than prestige alone.

Today, India's achievements extend beyond developmental applications. The Chandrayaan missions, the Mars Orbiter Mission, the Aditya-L1 solar observatory, and the forthcoming Gaganyaan human spaceflight

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program have established India as a nation capable of executing sophisticated and reliable space missions.

Chandrayaan-3's successful soft landing near the moon's south pole in August 2023 placed India among an exclusive

group of space powers while demonstrating that world-class innovation can be achieved at comparatively modest cost.

India's growing credibility comes at a time when the global space economy is expanding rapidly. Valued at more than \$600 billion now, and projected to approach \$1.8 trillion by 2035, the sector is increasingly driven by commercial activity in satellite communications, Earth observation, navigation, climate services, broadband connectivity, and emerging fields such as in-orbit servicing and lunar exploration.

Many countries aspire to participate in this but lack indigenous capabilities. They

seek dependable long-term partners rather than merely launch providers.

India possesses the capabilities to meet these requirements. The liberalization of the space sector in 2020 transformed the ecosystem by opening it to private participation.

The establishment of the Indian National Space Promotion and Authorisation Centre, the expanding commercial role of NewSpace India Limited, and the growth of private enterprises have created one of the world's most dynamic emerging space ecosystems.

Indian startups are developing launch vehicles, satellite platforms, geospatial applications and propulsion technologies that are attracting global investment and customers. Companies such as Skyroot Aerospace, Pixxel and Agnikul Cosmos have demonstrated that Indian private enterprise can compete internationally in the field of advanced space technologies.

The next step is to internationalize this ecosystem. Rather than positioning itself only as a low-cost launch destination, India will offer comprehensive partnerships encompassing satellite design, launch services, mission operations, ground stations, astronaut training, capacity building and downstream applications in agriculture, disaster management and maritime security.

Gurjit Singh is a former ambassador and author.



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