Science & Technology · GS - III

Assess how greater private-sector participation in India's space programme can transform its industrial ecosystem and global competitiveness.

EXAM YEAR	PAPER	SUBJECT
DAILY PRACTICE 25/11/2026	GS - III	Science & Technology

MARKS	WORD LIMIT
15	~250 words

Answer Hint

Space-sector reforms, technology transfer, NSIL, industrial manufacturing, innovation, strategic autonomy

Model Answer

India's space programme is transitioning from a predominantly government-led production model towards greater participation by private enterprises. Industry-built launch vehicles represent an important development in this transformation.

Potential gains

1. **Higher launch capacity:** Private manufacturing can expand production capacity and support more frequent satellite launches.
2. **Industrial ecosystem:** Participation by firms in propulsion, electronics, materials and precision engineering can strengthen domestic manufacturing.
3. **Innovation:** Competition and private investment can encourage cost-efficient technologies and new space applications.
4. **Global competitiveness:** A larger industrial base can improve India's position in the international commercial launch market.
5. **Employment:** Expansion of space manufacturing can create skilled employment and support start-ups.

Institutional and strategic considerations

The Department of Space and ISRO must retain strong capabilities in research, mission assurance and advanced technology development. NSIL can facilitate commercialisation, while IN-SPACe supports and authorises private-sector participation.

However, quality control, technology protection, financing constraints and dependence on imported components require sustained attention.

The way forward

India should strengthen indigenous component manufacturing, testing infrastructure, industry-academia collaboration and predictable regulatory arrangements.

Private participation should complement public research capabilities rather than substitute for them. A collaborative ecosystem can improve launch capacity, technological self-reliance and India's role in the global space economy.

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