Cover Story

Atmanirbhar Bharat in Technology

Imagine an India where the technology we use every day, mobile phones, apps, satellites, electric vehicles, and medical devices, is designed, developed, and manufactured within the country. This vision is captured in one powerful idea: Atmanirbhar Bharat.

"Atmanirbhar" means self-reliant. But it is not about isolation; it is about innovation, capability, and confidence. It encourages India to build strong internal systems while also contributing to the global community. It is an invitation to innovate.

What is Atmanirbhar Bharat Tech?

It refers to the use of **science, engineering, and innovation** to make India self-reliant in:

- Technology
- Manufacturing
- Research and development

It includes sectors like:

- Space technology
- Electronics
- Renewable energy
- Artificial intelligence

Why is it important?

India has long depended on imports for:

- Electronic components
- Advanced technology
- Semiconductor chips

This creates challenges like:

- High costs
- Supply disruptions
- Limited innovation control

Atmanirbhar Bharat aims to solve this.

Where is it applied?

Across India:

- Urban tech hubs (Bengaluru, Hyderabad)
- Rural innovation centres
- Schools and colleges

When did it begin?

The initiative gained major focus in **2020**, but the idea of self-reliance has roots in India's development journey since independence.

Who is involved?

- Government of India
- Scientists and engineers
- Startups
- Students and educators

You are also a part of this ecosystem.

How It Works: Methods, Procedures, Usage

1. Innovation Ecosystem

India is building innovation through:

- Incubation centres
- Research labs
- School innovation programs

Example: **Atal Tinkering Labs**

Students can:

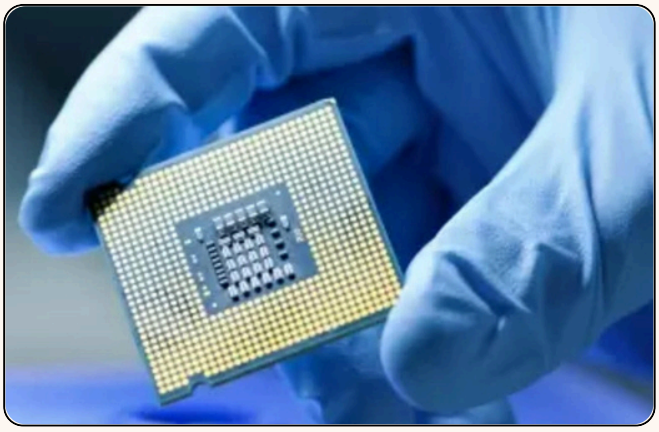
- Build prototypes
- Experiment
- Solve local problems

2. Make in India & Manufacturing

Encourages production of goods within India.

Example:

- Mobile phone manufacturing
- Electric vehicles



3. Digital Transformation

India leads in:

- Digital payments
- Online education
- E-governance

Example: Unified Payments Interface

4. Research & Development

Focus on:

- Indigenous technologies
- Scientific research

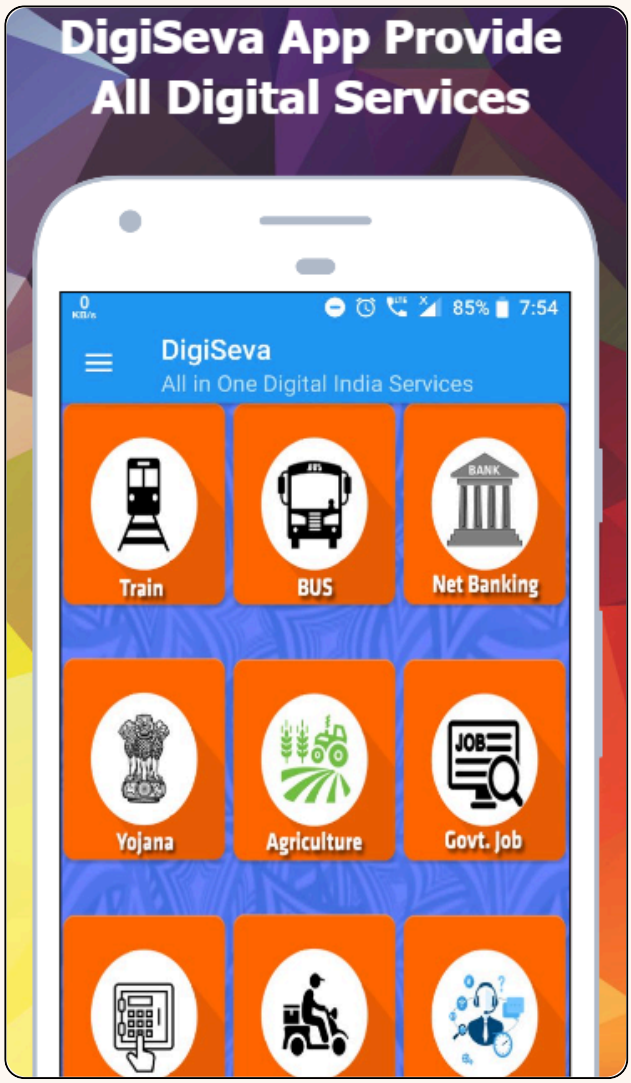
Institutions like:

- ISRO, DRDO

5. Skill Development

Programs train youth in:

- Coding, Robotics and AI



Fun Fact

Indian space missions are known for being cost-effective while achieving high success rates.

Advantages of Atmanirbhar Bharat Tech

One of the biggest advantages of this initiative is the creation of opportunities. When technologies are developed within the country, it generates employment and encourages entrepreneurship. It also reduces dependency on imports, making products more affordable.

Another important benefit is the promotion of innovation. When students and young professionals are encouraged to think creatively, they develop problem-solving skills that are essential for the future. Atmanirbhar Bharat also strengthens national confidence. It shows that India is capable of competing globally in science and technology.

Challenges of Atmanirbhar Bharat Tech

Despite its advantages, achieving technological self-reliance is not easy. It requires significant investment in research and infrastructure. Advanced technologies like semiconductor manufacturing are complex and expensive.

Another challenge is the digital divide. While cities have access to advanced technologies, some rural areas still lack basic infrastructure. Bridging this gap is essential to ensure inclusive development.

Skill development is also crucial. Students need access to quality education and training in science and technology to contribute effectively.

Examples

1. Digital Payments Revolution

- UPI transformed transactions
- Even small vendors accept digital payments

2. Space Missions

- **ISRO** missions like Chandrayaan

3. Vaccine Development

- India developed and produced vaccines during COVID-19.

Future Impact

The future of Atmanirbhar Bharat Tech is full of possibilities. India can become a global leader in areas such as renewable energy, space technology, and digital innovation.

Emerging fields like artificial intelligence, robotics, and biotechnology will play a major role in shaping the future. Students who develop skills in these areas will have the opportunity to contribute to groundbreaking innovations.

Sustainable development will also be a key focus. Technologies that protect the environment while supporting growth will be essential.

Role of Schools in Building Innovation

Schools are no longer just for textbooks; they are becoming **innovation hubs.**

Activities like:

- Science clubs
- Innovation contests
- STEM labs
- Hackathons

help students turn ideas into reality.

Classroom Activities for Teachers

Teachers can play a vital role in encouraging innovation. One effective activity is to ask students to identify problems in their surroundings and suggest solutions. This helps develop observation and critical thinking skills.

1. Innovation Brainstorm Session

Ask students:

- What problems exist in your locality?
- Can you design a solution?

2. Group Project

Topics:

- Smart village model
- Waste management system

3. Student Innovation Challenge

"Design for India" Challenge

Create a solution for:

- Water conservation
- Waste management
- Energy saving

Conclusion

Atmanirbhar Bharat Tech is more than a national initiative; it is a movement that invites every student to participate. It encourages you to observe the world around you, ask questions, and develop solutions.

The journey from a simple idea to a successful innovation begins with curiosity. By learning science, experimenting with ideas, and thinking creatively, you can contribute to building a self-reliant India.

Quick Quiz

1. What does "Atmanirbhar Bharat" mean?

a) Dependence on imports **b)** Self-reliant India **c)** Only rural development **d)** Foreign investments

2. Which Indian platform enables instant digital payments?

a) DigiLocker **b)** UPI **c)** Aadhaar **d)** ISRO

3. Which organisation launched Chandrayaan missions?

a) DRDO **b)** NASA **c)** ISRO **d)** BARC

4. What is the first step in innovation?

a) Marketing **b)** Problem identification **c)** Selling **d)** Coding

5. What skill does GYS Talks mainly develop?

a) Drawing **b)** Memorisation **c)** Communication & presentation **d)** Sports

Answers:

1-b, 2-b, 3-c, 4-b, 5-c

Riddles 2603

1. Made in India, I fly beyond the sky and explore space. What am I?
2. I carry money without cash and make India digitally strong. What am I?
3. Built in Indian labs, I can fly without a pilot. What am I?
4. I am a smart chip that powers phones and computers made in India. What am I?
5. I turn sunlight into electricity to power an independent nation. What am I?

(Answers on Back Cover Inside)

Sudoku Challenge 2603

		1	3		2			
		3			7		4	5
		7						9
		6	5				7	
2								1
	9				1	4		
5						9		
6	1		2			8		
			9		8	5		

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