

Industrial Visit Report

Day- 1 : Name of Company : NRSC IRSO

Date of visit: 23/09/2025

To whom you interacted:

- Ms. Shamali Parinder madam (Scientists) and technical experts from NRSC, ISRO, Hyderabad, Telangana.

Industrial visits are an integral part of academic learning, as they provide students with practical exposure, professional insights, and real-world applications of theoretical concepts. Our educational trip to Hyderabad from 22nd September 2025 to 27th September 2025 was organized with the objective of enhancing our knowledge, expanding our horizons, and experiencing first-hand the functioning of world-class organizations. During this six-day visit, we had the privilege of visiting two prestigious institutions: the Indian Space Research Organization (ISRO) and T-Hub, India's largest startup incubator. These visits were not only educational but also inspiring, as they provided a deeper understanding of science, technology, and innovation, while also motivating us to think critically and creatively about the future.

Purpose of Visit:

The purpose of the visit was to understand how NRSC functions as part of ISRO in the field of remote sensing and satellite data applications. It aimed to give students practical exposure to how satellite signals are collected, processed, and converted into usable information for real-world applications like disaster management, agriculture, and urban planning. The seminar also gave insights into ISRO's organizational structure, past missions, and future goals such as Gaganyaan.

Observations:

- We observed how raw satellite signals are processed and converted into usable maps for applications like agriculture, water management, and disaster monitoring.



- We learned about ISRO's ongoing and future missions, and how advanced technologies like AI and big data are used to handle huge volumes of satellite data.

Key Learning's -

Through this visit, we learned about India's significant progress in space research, from launching satellites for global clients to ambitious missions such as Chandrayaan and Gaganyaan. We understood the critical role of teamwork, innovation, and problem-solving in achieving such milestones. It also highlighted how space technology is not limited to exploration but extends to agriculture, weather forecasting, disaster management, and communication networks, impacting millions of lives.

Inspiration for Students

The ISRO visit instilled in us a sense of pride and responsibility. Seeing India's scientific advancements inspired us to pursue innovation in our own fields and underscored the importance of perseverance, research, and vision in achieving excellence.

Integration aspects:

The visit highlighted the integration of people, processes, and technology in achieving ISRO's missions. Teamwork between scientists, engineers, and data analysts ensures accuracy and efficiency in remote sensing applications. Integration of research with real-world needs like urban planning and disaster response was clearly demonstrated.

Technology stack :

- Remote Sensing Satellites for data collection.
- Ground stations for signal reception.
- GIS (Geographical Information Systems) for map creation.



- AI & Machine Learning models for data analysis and classification.
- Big Data & Cloud Computing for handling and processing large datasets.

Any other aspects that you see:

- The visit showcased the importance of space technology in solving real-life societal and environmental problems.
- ISRO's dedication to innovation and continuous improvement serves as an inspiration for students.
- It motivated us to think beyond textbooks and consider careers in research, data science, and space technology.

Inspiration for Students

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Photo -



Day-2 : Name of Company: T-Hub, Hyderabad.

Date of Visit: 24/09/2025

- Mr. Shrinivas Taluka, Vice President of T-Hub, Hyderabad, Telangana.

About T-Hub :

The next significant destination on our trip was T-Hub, located in the heart of Hyderabad. T-Hub is recognized as India's largest startup incubator and a vibrant ecosystem that brings together entrepreneurs, mentors, investors, and industry leaders under one roof. It serves as a launch pad for innovative ideas and plays a vital role in shaping the future of entrepreneurship in India.

Observations :

During our visit, we toured the incubation spaces, co-working environments, and innovation labs, all designed to nurture startups at various stages of growth. We also observed interactive sessions where entrepreneurs pitched their ideas and received mentorship. The display of ongoing projects and prototypes reflected the diversity of ideas being developed—ranging from artificial intelligence and healthcare solutions to fin-tech innovations.

Importance of T-Hub for Students

For us as students, the visit to T-Hub highlighted the relevance of entrepreneurial thinking and the importance of fostering creativity and innovation. It taught us that failure is not the end but a stepping stone toward growth, and that the future belongs to those who dare to experiment and challenge conventional boundaries.

Learnings and Outcomes

The Hyderabad industry visit was a transformative experience that enriched us in multiple ways.

- **Startup Ecosystem Insights:** From the T-Hub experience, we gained valuable insights into how startups are built, sustained, and scaled.
- **Importance of Networking:** The visit emphasized the significance of networking, collaboration, and adaptability in today's rapidly evolving business environment.
- **Entrepreneurial Support:** We learned how T-Hub provides essential support through funding, mentorship, and global partnerships, enabling entrepreneurs to turn their ideas into successful ventures.



Department of Computer Engineering

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- **Practical Exposure:** By visiting ISRO and T-Hub, we were able to connect our classroom learning with real-world applications, gaining a practical understanding of space technology and entrepreneurship.
- **Skill Development:** The visit helped us develop key skills such as observation, communication, teamwork, and analytical thinking.
- **Professional Networking:** Exposure to industry professionals and their work environments broadened our perspectives and inspired us to explore career opportunities beyond academics.
- **Personal Growth:** The trip enhanced our confidence, curiosity, and innovative thinking. It also fostered a sense of responsibility to contribute meaningfully to society through science, technology, and entrepreneurship.

Photo @T-Hub, Hyderabad.



GPS Map Camera

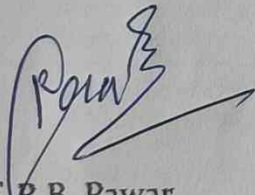


Hyderabad, Telangana, India 🇮🇳
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 Craft Village, Madhapur, Hyderabad, Telangana 500032, India
 Lat 17.433911° Long 78.37894°
 24/09/2025 10:44 AM GMT +05:30



Conclusion

Our educational trip to Hyderabad from 22nd to 27th September 2025 was both insightful and inspiring. The visits to ISRO and T-Hub provided a unique blend of scientific knowledge and entrepreneurial spirit, showcasing how innovation drives progress in diverse fields. The ISRO visit ignited our fascination with space exploration and highlighted India's growing role on the global stage, while T-Hub exposed us to the dynamic world of startups and the limitless possibilities of creative problem-solving. Together, these experiences bridged the gap between academic learning and industry practices, motivating us to think beyond textbooks and embrace innovation as a way of life. In conclusion, the Hyderabad trip was not just an industry visit—it was a journey of learning, discovery, and inspiration. It reinforced the value of curiosity, collaboration, and perseverance, qualities that will undoubtedly guide us in our academic and professional journeys ahead.



Prof. R.B. Pawar
IV Coordinator



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Industrial Visit PO Mapping and Analysis

NRSC ISRO Pre-visit Questionnaires Responses and PO Mapping

Sr.No	Question	PO	Correct Percent
1	NRSC collects satellite data. Which of the following best describes the first step after receiving raw satellite signals?	PO1	72.37
2	During your visit, you will notice ground station antennas. What is their role in data processing?	PO3	82.89
3	In NRSC, satellite images are divided into multiple "bands." What is the purpose of this band separation?	PO1	92.11
4	While processing satellite images, what problem does cloud cover cause?	PO2	71.05
5	In the NRSC data processing pipeline, which computer engineering skill is most useful?	PO5	72.37
6	"Bhuvan" is often compared to Google Earth. Based on your visit, which feature is unique to Bhuvan?	PO6	78.95
7	NRSC uses different satellites for different purposes. Which type of sensor is most useful for agriculture mapping?	PO1	59.21
8	During the visit, you'll see servers handling "Petabytes of data." What challenge arises here for computer engineers?	PO3	88.16
9	Which of these is a real-world application of remote sensing that NRSC demonstrated?	PO7	78.95
10	Which type of data correction ensures that satellite images align properly with Earth's surface coordinates?	PO1	78.95
11	During your visit, you will hear about "active" and "passive" sensing. Which example did NRSC use for active sensing?	PO1	69.74
12	What computing approach is often used in NRSC to classify satellite images into categories like "urban, forest, water"?	PO5	63.16
13	If NRSC wants to monitor changes in Hyderabad city over 10 years, which technique would they most likely use?	PO4	68.42
14	Why does NRSC maintain multiple ground stations across India?	PO3	75.00
15	What is the role of cloud computing in NRSC's satellite data services (as explained during the visit)?	PO5	68.23

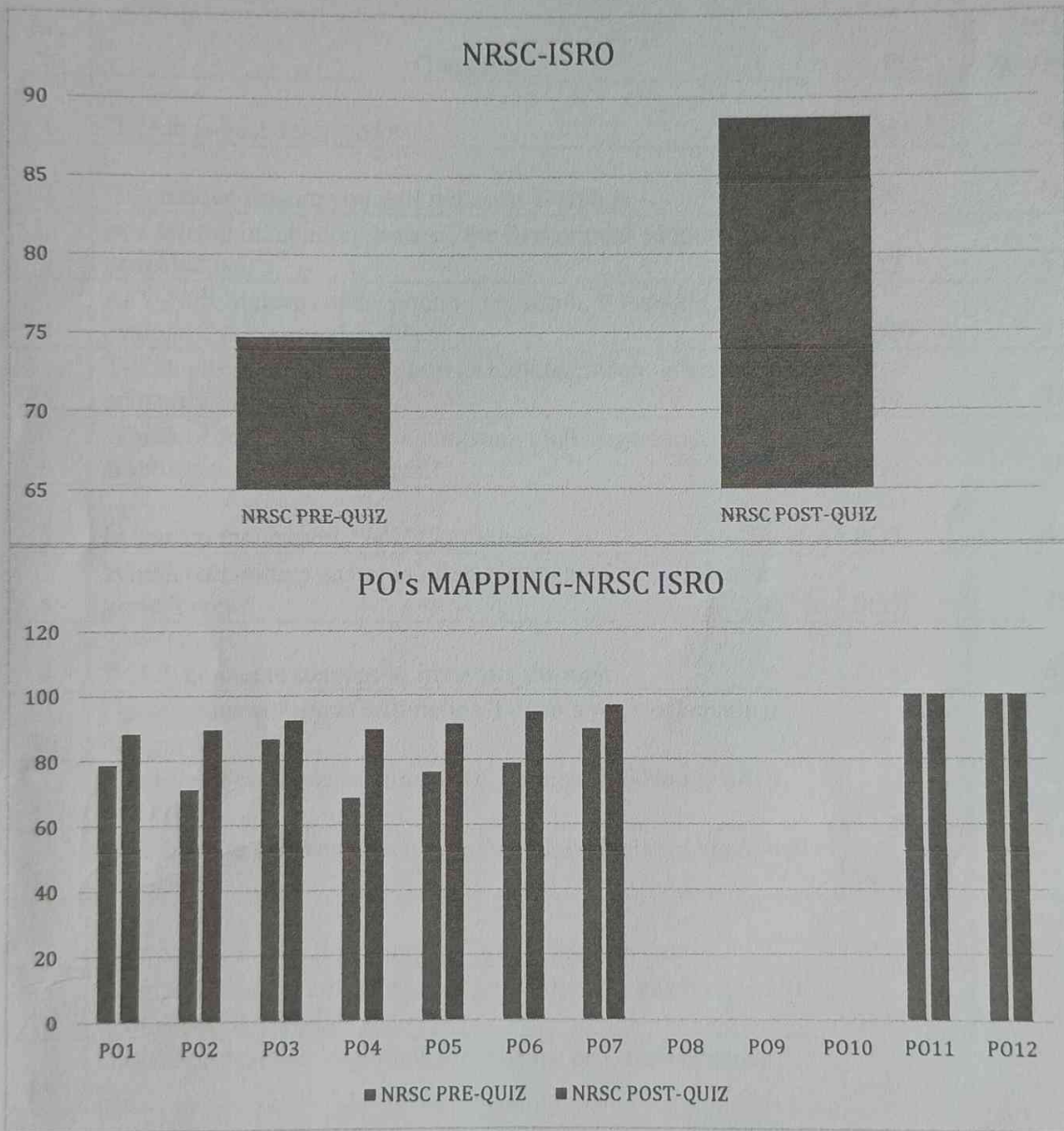


NRSC-ISRO Post-visit Questionnaires Responses and PO Mapping

Sr.No	Post Visit Questionnaire Domain - NRSC	PO	Correct Percent
1	NRSC collects satellite data. Which of the following best describes the first step after receiving raw satellite signals?	PO1	84.21
2	During your visit, you will notice ground station antennas. What is their role in data processing?	PO3	93.42
3	In NRSC, satellite images are divided into multiple "bands." What is the purpose of this band separation?	PO1	98.68
4	While processing satellite images, what problem does cloud cover cause?	PO2	89.47
5	In the NRSC data processing pipeline, which computer engineering skill is most useful?	PO5	90.79
6	"Bhuvan" is often compared to Google Earth. Based on your visit, which feature is unique to Bhuvan?	PO6	94.74
7	NRSC uses different satellites for different purposes. Which type of sensor is most useful for agriculture mapping?	PO1	80.26
8	During the visit, you'll see servers handling "Petabytes of data." What challenge arises here for computer engineers?	PO3	88.16
9	Which of these is a real-world application of remote sensing that NRSC demonstrated?	PO7	93.42
10	Which type of data correction ensures that satellite images align properly with Earth's surface coordinates?	PO1	85.53
11	During your visit, you will hear about "active" and "passive" sensing. Which example did NRSC use for active sensing?	PO1	81.58
12	What computing approach is often used in NRSC to classify satellite images into categories like "urban, forest, water"?	PO5	82.89
13	If NRSC wants to monitor changes in Hyderabad city over 10 years, which technique would they most likely use?	PO4	89.47
14	Why does NRSC maintain multiple ground stations across India?	PO3	88.16
15	What is the role of cloud computing in NRSC's satellite data services (as explained during the visit)?	PO5	90.79



IV Analysis Report (NRSC-ISRO) :



T-Hub Pre-visit Questionnaires Responses and PO Mapping

Sr. No	Question	PO	PO Mapping
1	T-Hub is best described as:	PO11	94.74
2	One unique feature you will notice at T-Hub is:	PO9	86.84
3	In a startup incubation process, the first critical support usually provided is:	PO2	82.89
4	At T-Hub, startups often pitch to investors. What skill is most evaluated during such pitches?	PO10	85.53
5	T-Hub promotes an ecosystem of collaboration . What does this primarily mean?	PO9	72.37
6	Which of the following is a common challenge for startups discussed at T-Hub?	PO4	78.95
7	In startup incubation, "MVP" refers to:	PO3	48.68
8	Which technology sector is often highlighted at T-Hub as a growth area?	PO5	85.53
9	T-Hub connects startups to investors through:	PO11	89.47
10	During your visit, you will notice T-Hub's physical space is designed to:	PO9	73.68
11	The role of computer engineers in startups at T-Hub is often related to:	PO5	81.58
12	Which is the correct order of startup growth stages supported at T-Hub?	PO11	71.05
13	"Corporate Innovation Program" at T-Hub is aimed at:	PO7	73.68
14	Which of these is an example of an ecosystem partner you'll hear about at T-Hub?	PO9	89.47
15	Cloud services are important for startups at T-Hub because they:	PO5	78.95

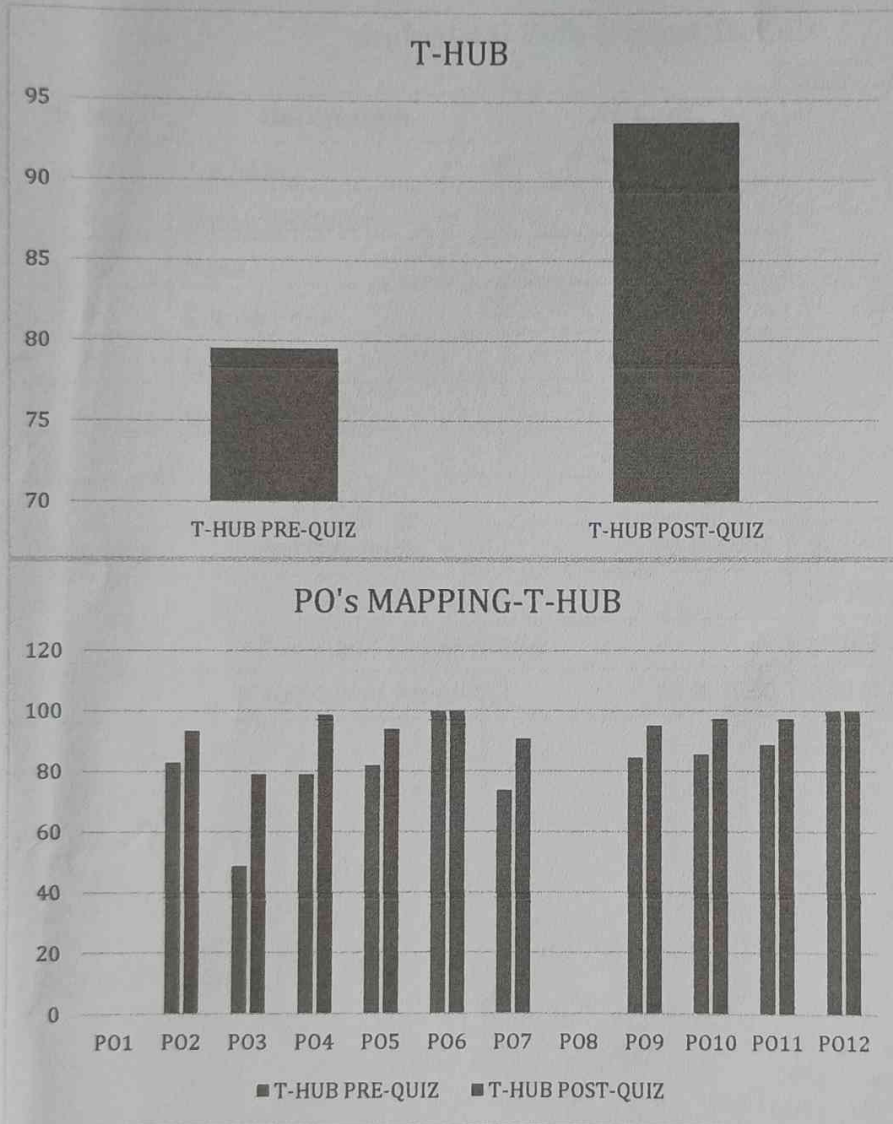


T-Hub Post-visit Questionnaires Responses and PO Mapping

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IV Analysis T-HUB



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Industrial Visit Budget Details

Sr. No.	Description	Amount	
1	Travelling	135000	
2	Accommodation	100000	
3	Food	35000	
4	Entrée Fees	19800	
5	Local Bus	40000	
6	Miscellaneous	800	
		330600	
Collection	Total Students = 76	76 X 7000	532000
	Total Expenditure		330600
	Per Head Expenditure		4350
	Returned Amount	76 X 2650	201400

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