



Rajesh Muneshwar PROFILE

- ❖ Space Entrepreneur, Rocket Propulsion Scientist and Defense Engineer.
- ❖ Space Launch Vehicle Design and Launch Project Head
- ❖ Pioneer of Cloud Seeding and Rocket Design & Launch by Private sector in India.
- ❖ Dr. Babasaheb Ambedkar Ratna was awarded by the Government of India's United Nations Permanent Mission for exemplary work.

Born in October 1986, Rajesh Muneshwar is a graduate of Kharkiv Aviation Institute ("KhAI"), Kharkiv, Ukraine (formerly a Soviet Military University in the former USSR). He obtained a degree specializing in Rocket Propulsion and Aircraft Design, Manufacturing Engineering in 2011. Throughout his time at "KhAI", he actively participated in research focused on the Design & Development of Medium Range & Suborbital Sounding Rockets, Solid Rocket Motors, Unmanned Aerial Vehicles, and Light Aircraft.

Currently, Rajesh Muneshwar holds the position of co-founder and Technical Director at Vihaan Spacetechn Pvt. Ltd, an Indian space Launch Industry Start-up. Additionally, he is pursuing an integrated Ph.D. in *"Design Technologies in Propulsion Systems for Space Launch Vehicles and Inter-orbital Space Transportation."*

Recognized by Aero-Club of India (ACI), Government of India as a Pioneer in High Power Rocketry Design and Manufacturing Projects in India. Completed 80 High Altitude Rocket Launches a record for a private Rocket Design Engineer in India. Served as an External Project Guide for the Bachelor's Degree work of Universities and Colleges. Main Project Instructor and Developer of TEAM VIGYAN an Indian team for the International Rocket Launch Competition at Space Port America 2017. While graduating he worked in *Lilienthal Avia JSC* as a Production Engineer and Asst. Design Engineer with NII PFM "KhAI", Ukraine. In 2010 he worked with Bharuk Aerospace Ltd in Ukraine as a project engineer. In 2012 he was appointed as founder Director and Chief Design Engineer in Engenious Aerospace Ltd.

Research interests of Rajesh Muneshwar – Design and Development of Sub-orbital and orbital Space Launcher, Solid and Liquid Rocket Engine Development, Heavy Lift Launch Vehicle Development, Private space Launch Services project development, Light Armaments & Rocket Artillery Weapons and Light Sport Aircraft.

Works of Rajesh Muneshwar published in leading scientific Journals 29.09.2010 – 2011. His activities have been highlighted by leading newspapers in India since 2012 – 2016. As a Co-Founder Director of Vihaan Spacetechn, he is actively engaged in Technical sessions and workshops of Indian Space Association, InSpAce and DefSpace workshops.

Participation in the projects of Rocket Propulsion Systems and Unmanned Aircraft Systems 2010 - 2024 year:

2012-2024

- Technology Transfer and Military Aviation Parts sourcing for SU-30 and Mi -8 Helicopters
- Pilot Training School Consultation and Aircraft Procurement.
- Artillery Rocket and Ammunition Technology Business development for Defense Industrial Complex, OEMs in Ukraine.
- Bi-propellant rocket Engine Design and Technology Transfer with Space Industries

2010 – 2011

- Conceptual Design work of Integrated Rocket Ramjet (IRR) Based Sounding Rocket “*SHIVASTRA-1*”,
- Test firing of “*R-16*” Air-Air Missile Booster Motor for “*Shivastra-1*” Sounding Rocket.
- Assisted in “Sparrow-S” Unmanned Aircraft Systems for the large-scale aerial photography and security surveillance based on unmanned aircraft “*Vorobey-M*” at NII PFM KhAI, Ukraine: Engineer, Deputy Executive in charge of the project;
- Co-developed conceptual design of “Krish” Unmanned Aerial Vehicle System for Agriculture crop spraying and crop monitoring.

2011 – 2012

- License Manufacture of X-32, and X-34 Light Aircraft in the Indian subcontinent and southeast Asia; Founded public limited company Engenious Aerospace Ltd (EAL) in India for Design & Development of Rocket Launch Systems, Light Aircraft Production and Unmanned Aerial Vehicle manufacturing; Development & Demonstration of Unmanned Aerial System for GIS Mapping and Aerial Survey.

2013 – 2014

- Preliminary Design Development of Sounding Balloon Assisted Rocket for Suborbital Space Access “Rockoon”.
- License manufacturer of T-10 Very Light Aircraft and partner with T-MM Avia Ltd, Ukraine.
- Skill-based training in Design and Construction of High Altitude research rockets in Indian Academia.

2014 – 2016

- Rocket Launch System for Cloud Seeding / Anti-hail protection system and Technology Demonstration to the Government of Maharashtra: the head of the development of the Rocket Systems and Project Planning;
- 70 mm Armament Rocket System Specification development and Propulsion System Design.
- Development and Test firing of Hybrid Rocket Engine N₂O + Aluminized Paraffin Wax for 45 km High-Altitude payload Launch for EASA Spaceport America, USA.
- Development and Test firing of 15 km Single Stage Solid Propellant Rocket for Meteorology and Student Payload Launch Services.
- Development of an Unmanned Aerial System Project for Precision management and monitoring operations in Forestry for the Government of Maharashtra.

2017 – 2018

- Aero-India Defense, Bangalore - Expo Exhibited Rocket and UAV systems.
- Successfully initiated the Training program on Rocket Propulsion and Space Technology, in Kharkov, Ukraine.
- Business development in Aerial Target UAV Systems in Ukraine.

2018 – 2022

- General Director and CTO at Enabletech Industries Ukraine LLC.
- Established JV Collaboration with South Design Office, “Yuzhnoye”, Ukraine for Space Launch Vehicle.
- Sounding Rocket Prototype Production and Display in International Space Exhibition BSX-22, Bangalore, India
- Developed Agriculture Spraying and precision farming Drone.

2022-2023

- Founder and CTO, Vihaan Spacetechn Pvt. Ltd, Nagpur
- Developed Cansat Launcher Rocket, Successfully Demonstrated in Dholera, Ahmedabad for InSpACe, DOS, India

Books and Publications:

1. Sounding Rocket Shivastra-1;
<https://dspace.library.khai.edu/xmlui/bitstream/handle/123456789/1914/Rajesh.pdf?sequence=1&isAllowed=y>
2. Rockets – Its evolution, for Space Exploration, ISBN: 978-93-86521-59-0, Nachiket Prakashan 2024
3. https://www.academia.edu/121267884/Market_Analysis_and_Potential_of_Uav_Systems_for_Monitoring_and_Cartography_in_Ecology_Agriculture_and_Forestry
4. <https://www.ijsrd.com/Article.php?manuscript=IJSRDV5I50252>