Vivek Paul

TECHNICAL MANAGER CUM OPERATIONS SUPPORT ENGINEER

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Results-oriented professional with a robust drone development, production, and certification background, specializing in safety, quality control, and compliance. Skilled in managing the full product lifecycle from design to market, with extensive hands-on experience in SITL/HITL testing (Ardupilot, PX4) and firmware compilation for various FC boards. Proven track record in coordinating cross-functional teams (Design, Integration, Testing, Software) to achieve project goals, supported by strong knowledge of ISO 9001 and AS9100 standards.

Well-versed in DGCA-type certification processes, with established connections across certification labs, vendors, and manufacturers. Adept at strategic product positioning to align with market needs, leveraging insights from civil certification and industry trends. Experienced in developing maintenance processes, documentation, and manuals to streamline operations and enhance product usability. Recognized for a proactive approach to refining product quality, and delivering solutions that exceed market expectations.

PROFESSIONAL SUMMARY

- Managed the development & production of flight test operations emphasizing safety & quality control along with global teams raising the overall standards in quality.
- Implemented critical thinking to break down problems and provide effective solutions.
- Designed and developed Products from requirements to production release including component selection, integration & assembly, and testing to production release.
- Knowledge of SITL/ HITL features in Ardupilot and PX4
- Compiling firmware for different FC boards and testing them to meet the requirements.
- Coordinated with engineering teams to integrate complementary technologies.
- Supported in product documentation & manual development.
- Assisted in providing training and end-user training documents.
- Developed efficient DJI maintenance processes boosting productivity.
- Analyzed structures using engineering principles and FEA ensuring all requirements were met.
- Managed inventory and provided necessities for projects.
- Efficiently managed cross-functional teams, including Design, Integration, Testing, and Software, to ensure project timelines were met and deliverables aligned with product requirements.
- Developed manuals and procedures for various divisions and teams, clearly explaining the roles and responsibilities of each team member to ensure smooth and systemized processes. Ensured necessary documents and reports were generated at each stage of development, thereby reducing time wastage throughout the process.
- Proficient in Civil certification (Type certification) processes for drones as per DGCA regulations.
- Established strong connections with both domestic and international vendors and manufacturers for specialized development requirements.
- Skilled in making strategic decisions to effectively pitch products in alignment with market demands.
- Connecting with potential clients to pitch the products and give demonstrations keeping their requirements in the picture.
- Established strong connections with various labs involved in type certification, aiding in understanding the latest trends in certification processes.
- Possess good knowledge of ISO 9001 and AS9100 standards.

WORK EXPERIENCE

Infravision Transmission Solutions Ltd

Manager - Fleet Maintenance & Upgradation (Operations) (Noida) (Oct 2024 - Present)

- Collaborated with the global team (Australia) to support operations and drive new product development initiatives.
- Managed a nationwide drone fleet, developing and implementing automation processes to optimize tasks and operations.
- Directed teams to resolve technical issues during operations and ensured proper documentation in line with established procedures.
- Maintained and ensured compliance with global quality standards for drones and related equipment, identifying process gaps for refinement.
- Provided technical guidance to the global team for developing ground and air systems tailored to meet operational requirements effectively.
- Led the type certification process for drones used in transmission line operations, ensuring regulatory compliance.
- Streamlined operations by coordinating scheduled and unscheduled maintenance activities, improving reliability and efficiency.
- Developed and monitored maintenance schedules for systems and subsystems to enhance operational performance and lifecycle management.

DCM Shriram Defence, New Delhi

Manager- Drone & Counter Drone Systems (New Delhi) (Feb 2023 - Oct 2024)

- Manage and nurture Drone and Counter drone system teams.
- Use critical thinking to break down problems, evaluate solutions and make decisions.
- Developed and modified existing drones as per tender requirements creating variety of products without much R&D work.
- Collaborate with external vendors and get right resources applicable for smooth functioning of projects and customer deliveries.
- Participate in team projects, demonstrating ability to work collaboratively and effectively.
- Screen upcoming tenders and work closely for solution to participate in demos.
- Mentoring the teams in developing various processes and procedures for testing and validation activities.
- Mentoring teams in the DGCA type certification process for the drones as per their category.
- Support customer demonstrations supervise & evaluate the performance of the production,process (quality control, etc.).

- Assist in product documentation & manual development.
- Connect with labs across the country for various testing procedures like EMI/EMC, Environmental and Material Testings etc.
- Connecting with potential clients to pitch the products and give demonstrations keeping their requirements in the picture.

Asteria Aerospace Ltd, Bangalore
Senior Engineer - UAV Integration & Testing (Nov 2021 - Jan 2023)

- Coordinate with another engineering team on the integration of complementary technologies.
- Flight test & evaluation of prototypes & final production units.
- Integration, testing, and validation for R&D/new product development.
- Manage development & production flight test operations with emphasis on safety & quality control.
- Support customer demonstrations supervise & evaluate the performance of the production,process (quality control, etc.).
- Assist in product documentation & manual development.

Asteria Aerospace Ltd, Bangalore
Senior Engineer - Product Design (Mar 2017 - Oct 2021)

- To document requirements, design, manuals, test procedures, and test reports for UAV mechanical components and assemblies.
- To test and verify UAV mechanical components against requirements and design.
- Electro-mechanical design of components and assemblies by taking into account relevant factors like system requirements, design principles, DFM, etc.
- Analyze structures using engineering principles, FEA to ensure that all requirements with respect to loads, weight, and operating environment are met.

Skylark Drones Pvt Ltd, Bangalore
Drone Operations Engineer (Jul 2016 - Feb 2017)

- Assist in validating and testing the various platforms used for surveying and mapping applications.
- To support the flying team, including the clients, in overcoming the challenges they face in the field.
- Conduct various Drone Missions related to surveying and mapping applications.
- Conduct regular maintenance of the platforms (e.g. DJI) used for surveying applications.
- To do resource management for various projects according to the client requirements.
- To travel to client sites and gain an understanding of the real field problems that occur in the projects and provide workable solutions.

Edall Systems for TATA GTIO, Bangalore
UAV Design Engineer (Aug 2015 - Jun 2016)

- Study on sloshing of the tank and parameters to avoid them in UAV pesticide tanks.
- Study the various nozzles used and improve the efficiency of the pesticide spraying mechanism and experiment to study the drift parameters that reduce efficiency.
- Assemble and test the various electromechanical systems against requirements.
- Design and develop an autonomous pesticide spraying UAV, spraying system including sensors and other electromechanical components, capable of lifting a 10 kg payload.
- Carry out the wind tunnel analysis of the UAV for various flying conditions.

National Aerospace Laboratories, Bangalore
Project Engineer (Feb 2014 - Aug 2015)

- Understand the aerodynamics of these small class vehicles by better studying through XFLR analysis, AVL, CFD (Fluent), wind tunnel (Static and Dynamic), PIV, and other experiments.
- Perform various wind tunnel testings on MAVs and UAVs for various research purposes.
- Design and develop Micro Aerial Vehicles of 15 and 20 cm wingspan, capable of carrying a daylight camera for surveillance purposes.
- Test-fly the microdrones in real-life conditions to understand their behavioral patterns.
- Perform various motor propeller combination tests in various wind conditions to get efficiency.

SKILLS

Technical Skills: SITL and HITL testing in UBUNTU, Prototyping and Flight testing, PX4 firmware simulation and compiling, System Integration and Testing, Cross-functional knowledge and guidance, Solving complex engineering issues, End-user training development, IP based payloads and radio integration, ROS, Gazebo, C++, Python, GCS Fearture Development, Tinkering and troubleshooting

Soft Skills: Trouble shooting, Team Leadership, Quick Learning, Problem-solving Capabilities, Client Handling, Effective Communication, Team Building, Work Safety, Vendor and Stakeholder Management

Core Competencies: Lab Testings (EMI/EMC, Environmental, Material Testings), Electro-mechanical Design, Testing, UAV Integration, Data Management, Technical Process Development, Regulatory Compliance, Customer Demonstrations, Resource Management, Operations, Maintenance and overhauling, Maintenance Scheduling, R/C Flying (Fixed wings, Multirotors, Hybrid Fixed wing), Maintenance Process, Inventory Management and Tracking

EDUCATION

Lord Jegganath College of Engineering & Technology - Nagercoil (Jun 2007 - Apr 2012)
Bachelor of Engineering: Aeronautical Engineering

ACHIEVEMENTS

- Was the key member in developing high altitude hovering drones testing them at altitudes (3000m-5200m AMSL) with heavy winds with autonomous missions, clearing the technical trials as per the requirements with in minimal time in development.
- Compiled and tested firmwares based on PX4 for various requirements and developed UAV to meet urgent customer requirements and demos.
- Conducted numerous trials with military and paramilitary forces, working alongside cross-functional teams including hardware and software teams to develop custom requirements based on their suggestions and delivered them.

- Designed and developed payloads, 3-axis and 2-axis, from requirements to production release in a month to fulfill the customer requirements.
- Efficiently improved the DJI maintenance process resulting in reduced downtime
- Developed quality procedures and processes from scratch and implemented them to improve efficiency and effective utilization of resources.
- Establish good connections with Army and para military officials to get aid for high altitude testings and customer demos.
- Has been a part in national and international exhibitions, understanding the market trends and develop requirements for future ready products.
- Successfully orchestrated an autonomous pesticide spraying UAV system, optimizing the payload capacity, stability, and endurance features
- Establish connections with potential clients and give demos at various locations to pitch the products and was able to get PO from an army unit by customizing the existing drone to match their custom requirements.
- Lead the Design and developed of ground systems for UAVs (Antenna Tracker, Mini GDT) from concept to final production, following structured development processes. Led these projects independently, including conceptual design, component selection, test procedure development, CAD modeling, avionics integration, and finalizing production-ready drawings after rigorous design evaluations.
- Led the team in optimizing range efficiency by strategically selecting radios and antennas and positioning them at calculated distances, successfully extending the range from 5 km to 10 km without the help of range extension devices such as amplifiers.
- Led the design and development of India's first 15cm and 20cm surveillance fixed-wing MAVs (Microbeacon, Microbat) for NAL to DRDO. Successfully demonstrated two operational models capable of real-time flight in gusty environments.

PROJECTS

Autonomous Pesticide Spraying UAV Project

- Assisted in improving the efficiency of the pesticide spraying mechanism
- Designed and developed UAV and its spraying system
- Performed wind tunnel analysis for the UAV under various conditions
- Tested and approved the electromagnetic systems against requirements
- Design and Developed 150mm and 200mm span fixed wing drones for spy surveillance operations.

HOBBIES

Drone Flying, Open-source Coding, Drone Technology Research, Music

LANGUAGES

English, Malayalam, Hindi, Tamil, Kannada

SOFTWARES USED

- CAD - Solidworks, Catia, NX,
- Simulations - xflr5, AVL, Ansys workbench, Solidworks Flow, Fluent
- Project Management - Jira, Monday.com, Trello
- Process Development - Confluence, Flyfreely, Safety Culture, Jotforms
- Operating Systems - Windows, Android, Linux (Ubuntu)
- Software simulations - Gazebo, Jmavsim (PX4)
- Programming Languages - C, C++, Python
- Maintenance and Upgradation : Safety Culture, FlyFreely