U P E N D R A M U N I V S

Systems Integration Engineer | Aircraft Systems, Simulation & Verification

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PROFESSIONAL SUMMARY

Systems engineer with 11+ years integrating aircraft and vehicle subsystems, building simulation models, and closing verification evidence with customers, airlines, and suppliers. Strongest fit is hardware–software integration, interface control, test execution, and root-cause closure on high-integrity systems. Recent cockpit-domain work adds multi-display integration, bench and vehicle testing, and OEM-specific acceptance of configured systems. Model-based background in MATLAB/Simulink and SCADE, with safety evidence under ARP4754, ARP4761, and ISO 26262.

CORE COMPETENCIES

Integration: Subsystem integration, HW/SW interfaces, interface control, board and bench bring-up, configuration control, integration readiness

V&V: Test planning and execution, requirements-based verification, deviation and corrective-action reporting, joint stakeholder validation

Customer & issues: Airline incident analysis, supplier requirement flow-down, OEM specification alignment, technical support through sign-off

Domain: Flight warning, FMS, ECAM/BITE, ATA 22/27/28/29/31/32; cockpit domain controllers, cluster, IVI, HUD; closed-loop controls

PROFESSIONAL EXPERIENCE

System Architect
Nov 2024 – Aug 2026

Marelli | Bengaluru, India

- Owned end-to-end architecture and integration of cockpit domain controllers with cluster, IVI, and HUD, so hardware, software, and displays operated as one system against regional OEM specifications.
- Led cross-functional hardware and software integration, bench integration, and vehicle-level testing; isolated interface and configuration faults and drove them to closure.
- Engineered customer-specific cockpit configurations and was the technical point of contact for interpreting OEM requirements and confirming the integrated build met them.
- Executed verification and validation against system requirements and functional-safety expectations, and recorded deviations and corrective actions for acceptance.

Technical Manager
Jul 2023 – Nov 2024

KPIT Technologies | Bengaluru, India

- Led cross-functional delivery of model-based ADAS controls (forward collision warning, ACC, intelligent park, exterior lighting) in MATLAB/Simulink, with CANoe and CANdb interface definition on the vehicle network.
- Tuned braking thresholds and time-to-collision logic for payload and stopping-distance variation and closed the gap between model prediction and measured vehicle response.
- Drove ISO 26262 compliance up to ASIL D: authored HARA, DFMEA, and safety cases for longitudinal and lateral control, producing the evidence set used in design and safety reviews.
- Raised team throughput with agile workflows, launch readiness reviews, and a single status rhythm across design, integration, and validation.

Engineer III — Avionics, Flight Warning System
Feb 2022 – Jan 2023

AKKA Technologies | Bengaluru, India

- Integrated and evaluated the flight-warning system with contributing aircraft systems and interface devices across ATA 22, 27, 28, 29, 31, and 32.
- Analysed top-level requirements, wrote high- and low-level requirements, and built system models in SCADE; defined and documented interfaces between the warning function and other aircraft systems.
- Created and ran validation strategies, including independent checks and joint validation with stakeholders, and flowed requirements to suppliers until deliverables met the agreed baseline.
- Investigated flight-warning incidents reported by airlines, traced root causes, and supported safety and certification evidence under ARP4754 and ARP4761.

Engineer — Aerospace Systems & Simulations
Jan 2019 – Feb 2022

Capgemini | Bengaluru, India

- Integrated aircraft systems in a simulation environment, including FMS and ECAM display health monitoring (BITE), and retuned model parameters with operational data to improve simulation fidelity.
- Designed, integrated, and evaluated high-integrity aircraft systems, interface devices, and computing equipment across ATA 22, 27, 28, 29, 31, and 32.
- Built custom simulation tools that shortened analysis cycles and made integration results easier to review, debug, and hand over.

- Reviewed algorithm implementations, cleared defects, and ran regular integration status meetings so subsystem owners stayed aligned on open issues and deadlines.

Engineer — Structures, Dynamics & NVH Apr 2015 – Jan 2019

Aeronautical Development Agency | Bengaluru, India

- Improved CAE and FEA fidelity by validating models against test data, and standardized NVH test setup, data acquisition, and reporting.
- Diagnosed complex noise, vibration, and harshness issues across the product lifecycle and recommended corrective test or design actions before release.
- Supported product acceptance by checking results against internal standards and applicable regulations.

EDUCATION

Bachelor of Engineering, Mechanical Engineering Mar 2014

Anna University, Chennai

TOOLS, STANDARDS & LANGUAGES

Modeling & simulation: MATLAB/Simulink, SCADE, SysML, Enterprise Architect, Cameo / MagicDraw

Integration & ALM: DOORS, Polarion, Jira, CANoe, CANdb, Python, C; Airbus Skywise / Palantir Foundry and Airbus in-house tools

Standards used: ARP4754, ARP4761 (aircraft system development and safety assessment); ISO 26262 up to ASIL D

Languages: English (C2), Tamil (C2), Hindi (A2), French (A1)