



ADITYA KARAN

STRATEGY & CONSULTING | PRODUCT & POLICY | PROGRAMME LEADERSHIP
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Executive Profile

Drawn to problems without a playbook, and a record of writing one. 13+ years at ISRO taking on challenges of increasing scale and impact: from spacecraft systems, to complex programmes, to strategic technology decisions.

Professional Experience

ISRO / U R Rao Satellite Centre (URSC), Bengaluru

Project Manager – Gaganyaan Human Spaceflight Programme

Jul 2019 – Mar 2026

- Strategised a \$60M spacecraft systems portfolio within the \$600M Gaganyaan programme; defined the integrated architecture and delivery roadmap, **synchronising 100+ engineers across 20+ teams and 6 ISRO centres**.
- Operationalised the programme architecture by **integrating financial priorities, sourcing, and risk-mitigation frameworks**; secured zero critical-path delays despite complex pandemic-related operational disruptions.
- Orchestrated cross-functional governance to resolve **conflicting stakeholders requirements, balancing safety protocols and technical performance** to ensure unified spacecraft mission outcomes.
- Led **India's technical engagement with NASA and ESA** on crewed docking, shaping proposal architecture and **coordinating multi-session negotiations**, culminating in the 2025 ISRO–ESA cooperation agreement.
- **Drove digital transformation of programme change governance**, implementing Siemens Teamcenter to establish decision protocols and achieve 100% traceability across mission-critical systems.
- **Benchmarked international human spaceflight programmes** to redesign Gaganyaan's test strategy; **built the case for a 44% reduction in test-cycle time**, accepted at a high-level programme review.
- **Led a six-month cross-functional optimisation campaign** that **reduced orbital mass by 10%**, resolving a mission-critical constraint within fixed safety and schedule boundaries.
- **Identified and closed a life-safety risk**; designed a first-of-kind validation approach, mobilising two ISRO centres and securing programme-level acceptance.
- Led \$3M environmental-test capacity planning and managed 50+ critical ground-support assets (\$1.2M) plus \$1.2M of outsourced structural-hardware delivery through industry, from requirement to flight-system readiness.
- Led a **multi-year production programme for 250+ flight-qualified avionics housings**, coordinating design, procurement, vendors, QA and integration under zero-fault-tolerance conditions.
- Synthesised delivery status, emerging risks and mitigation decisions for **programme reviews up to ISRO Chairman level**.
- **Co-authored India's Human Spaceflight 2047 strategic roadmap**, including the first integrated architecture study for the first Indian Space Station.
- **Shaped the \$12M roadmap for India's indigenous crewed-docking capability**, defining initial architecture, capability gaps and indigenisation pathway.

Project Manager – NISAR (NASA–ISRO satellite) | Product/Design Lead – Chandrayaan-2 Moon Rover

Aug 2015 – Jun 2019

- **Owned four mission-critical products for the Moon rover on Chandrayaan-2**, India's \$118M Moon landing mission, from concept through flight clearance, leading a 5-member team across design, fabrication, qualification and final delivery.
- Turned a critical rover anomaly into an optimisation opportunity; **led root-cause analysis and redesign that cut mass 6%, saved ~\$120K and protected the launch schedule**.
- **Built the lunar-mechanism qualification** where no dedicated facility or prior reference existed, creating the procedures and test infrastructure required for qualification.
- Owned a **mission-critical product** on the \$1B NASA–ISRO NISAR Earth-observation satellite, translating bilateral mission requirements into product decisions and managing design-to-delivery; **successfully deployed on orbit in 2025**.
- **Increased actuator production capacity 5×** with no new capital investment by **identifying process bottlenecks and redesigning production flow**; delivered 18 qualified units with **100% on-orbit success across five missions**.
- **Led make-vs-buy and industrialisation strategy** for a \$1.8M, 12-satellite programme to meet growing demand, selecting and negotiating with industry to move production into the private sector.
- Managed ~\$2.4M procurement of specialised components and equipment, coordinating sourcing and vendors to protect production schedules.

Quality Assurance Engineer – Spacecraft Mechanisms & Integration

Sep 2012 – Jul 2015

- **Held quality assurance and flight-clearance responsibility** across 10+ strategic satellite programmes (>\$210M mission portfolio), including **Mars Orbiter Mission**, India's navigation constellation, defence and science missions.
- Cleared 19 solar-array deployment systems for flight with **zero quality failures and 100% on-orbit deployment success**; participated in three launch campaigns.
- Led risk identification and corrective-action governance through FMECA/FTA, non-conformance reviews and launch-readiness assessments, preventing unresolved quality risks from progressing downstream.

Education

IIST Thiruvananthapuram — B.Tech, Aerospace Engineering

2008–12

Certifications

IIM Bangalore & Toulouse Business School — General Management Programme, Aerospace & Aviation

2023–24

Centre for Continuing Education, IISc Bengaluru

2014–19

Project Management; Structural Analysis & Design Optimization; Vibration & Noise Control; French. French A1 certification via Duolingo

Co-curricular & Entrepreneurship

- Reviewed a human-spaceflight startup pitch under IIMA Ventures, evaluating technology readiness, business model and go-to-market strategy.
- Participated in the INSEAD Venture Competition (IVC-2024); won \$1,000 in AWS credits.

Selected Distinctions & Thought Leadership

ISRO–ESA Intent of Cooperation (2025) • 6 peer-reviewed publications (2015–26) • IEEE SPACE 2024 First Prize • Satellite Technology Day 2017 First Prize • First digital transformation of change governance at ISRO • First architecture study for India's space station

Capabilities

Strategy & Transformation • Consulting & Problem Solving • Product Development • Policy & Government Engagement • Programme & Portfolio Leadership • Cross-functional Leadership • Operations & Industrialisation • Strategic Sourcing & Procurement • Risk & Governance • International Partnerships • Executive Communication • Systems Thinking