

NAO ICAO Alignment

Next Generation Aviation Professionals

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DETAILED ASSESSMENT

ICAO NGAP's alignment with National Aviation Olympiad (NAO)

1. Founding Principles

NGAP (ICAO)

- Global programme launched by ICAO to ensure a sustainable pipeline of aviation professionals.
- Designed to address worldwide shortages in aviation human resources.
- Focuses on global standards, harmonization, and capacity-building.

NAO (India)

- National-level initiative conceptualized to introduce **school students** to aviation and aerospace careers.
- Designed to align India's human capital development with future aviation industry needs.
- Inspired by global skill-gap challenges and supports national ambitions like UDAN, AMCA, Gati Shakti, drone ecosystem growth, and MRO expansion.

2. Target Audience

NGAP

- Broad spectrum:
 - High school students
 - University students
 - Early-career professionals
 - Workforce undergoing re-skilling/up-skilling

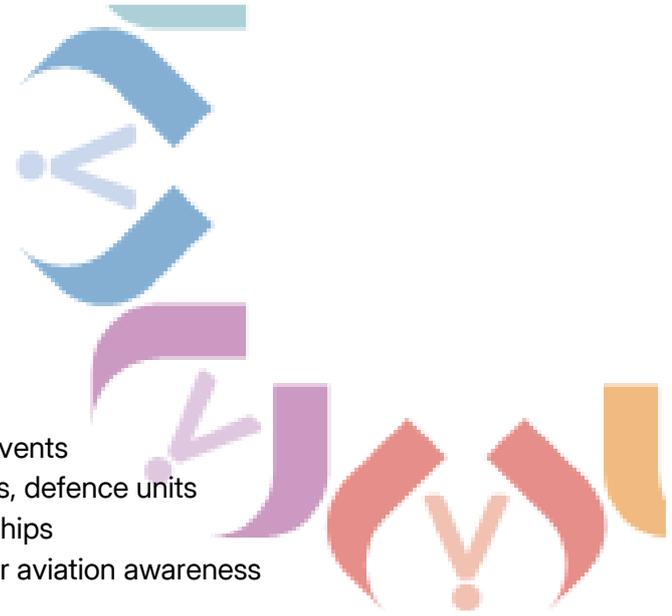
NAO

- Focused specifically on school students (Classes 8th-12th).
- Primary objective is early exposure and awareness to build long-term interest in aviation careers.

3. Scope of Activities

NGAP

- Global policy development
- Talent forecasting and workforce planning
- Competency-based training frameworks
- Capacity building for States and aviation authorities
- Gender equality programs (NGAP & Women in Aviation initiatives)
- Conferences, global summits, and international collaborations



NAO

- National-level Olympiad exam on aviation
- Curriculum development for school students
- Workshops, orientations, mock tests, and city-level events
- Interaction with airlines, airports, MROs, flying schools, defence units
- National rankings, awards, scholarships, and mentorships
- Potential platform for youth ambassador programs for aviation awareness

4. Implementation Structure

NGAP

- Led by ICAO in partnership with:
 - Civil Aviation Authorities (CAA)
 - Educational institutions
 - Airlines, ANSPs, airports, OEMs
 - International bodies like IATA, ACI, IFATCA
- Implementation varies by country through national aviation authorities.

NAO

- Led by an independent organizing body (supported by ministries, universities, and industry).
- Potential execution partners:
 - Ministry of Civil Aviation
 - CBSE, Kendriya Vidyalaya Sangathan, other school boards
 - Universities and aviation institutes
 - Industry bodies
 - States' education departments
- Works as a unified talent pipeline at the school level.

5. Geographic Reach

NGAP

- Global impact: 193 ICAO member states.
- Harmonized with international aviation workforce policies.

NAO

- National impact with potential for:
 - State-level outreach
 - Regional Olympiads
 - International expansion in future (SAARC, ASEAN, Middle East, BRICS)
- Creates India's first structured **school-to-aviation pipeline.**

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6. Outcomes and Deliverables

NGAP

- Long-term strategic frameworks for States
- Development of competency profiles
- Support for regulatory and capacity-building programs
- Global data on aviation human resource needs
- Increasing diversity and youth participation in aviation

NAO

- Identification of talented school students
- National database of aviation-interested youth
- Scholarships, internships, and educational pathways
- Strengthened ecosystem for aviation awareness
- Building future pilots, engineers, ATCs, technicians, drone operators, and aerospace scientists
- Supports India's goal of becoming an aviation hub

7. Alignment with Industry Needs

NGAP

- Addresses global shortages predicted by industry:
 - Pilots
 - AME/engineers
 - ATCOs
 - Airport operations
 - Cybersecurity
 - UAS and advanced tech roles

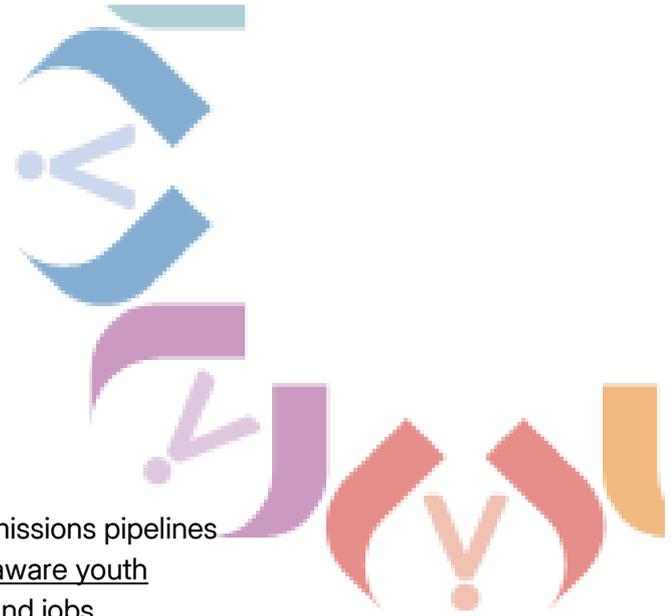
NAO

- Directly contributes by:
 - Creating early interest in STEM & aviation fields
 - Redirecting talent into aviation colleges and training schools
 - Reducing skill gaps before they even emerge
 - Encouraging girls in STEM and aviation

8. Stakeholder Benefits

NGAP

- Helps States plan future human capital
- Provides global best practices
- Reduces cost of training through harmonized systems



- Enhances international collaboration

NAO

- Helps schools add aviation as a new career pathway
- Creates national-level recognition for students
- Supports universities and institutes through early admissions pipelines
- Helps industry create a pool of pre-trained, aviation-aware youth
- Supports government policies for skill development and jobs

9. How NAO Extends NGAP Vision in the Indian Context

- NGAP sets the **global philosophy**, NAO converts it into **actionable implementation**.
- NAO acts as a **grassroots execution arm** that directly feeds into NGAP’s mission of addressing talent shortages.
- NAO bridges the gap between **awareness → education → skills → careers**.
- NAO makes aviation career pathways visible and accessible to **millions of young Indians**, solving the situational awareness problem that NGAP identifies at a global level.

In One Line:

NGAP is the global framework.

NAO is India’s on-ground implementation mechanism to fulfil that global vision.

Category	ICAO – NGAP	NAO
Objective	Ensure a sustainable global supply of qualified aviation professionals	Build early awareness and interest in aviation among Indian school students and create a national talent pipeline
Scope	Global human capital development framework	National Olympiad-based aviation awareness & selection system
Nature of Programme	Policy-driven, strategic, long-term workforce planning	Educational, competitive, awareness-oriented with exams, workshops, school engagement
Target Audience	High school students, university students, early-career professionals, aviation workforce	Students of Classes 6–12 across India



Lead Organization	International Civil Aviation Organization (ICAO)	NAO Organizing Committee with support from MoCA, universities, aviation institutions
Stakeholders	States, CAAs, airlines, airports, ANSPs, OEMs, global training institutions	Schools, school boards (CBSE, KVS, State Boards), universities, aviation academies, airlines, airports, MROs
Geographical Reach	193 ICAO Member States	All Indian states & UTs (with potential for SAARC/ASEAN/BRICS expansion later)
Key Activities	Competency frameworks, HR forecasting, policy development, global conferences, gender equality initiatives	Olympiad exam, orientation workshops, city outreach, rankings, scholarships, visits to aviation facilities
Focus Areas	Industry needs, workforce shortages, regulatory harmonization, capacity building	Early exposure, interest generation, talent identification, career mapping
Implementation Method	Implemented through national civil aviation authorities and international collaborations	Implemented through coordinated outreach to schools, boards, ministries, and aviation partners
Outcome	Strengthened global aviation workforce; harmonized training pipelines	Identified and groomed school-level aviation talent; increased enrollment in aviation training & education
Beneficiaries	States, training institutions, regulators, aviation industries	Students, schools, universities, aviation organizations, government skill missions
Impact on Workforce	Addresses <i>current and future</i> global shortages	Creates an <i>early-stage feeder pipeline</i> to prevent future national shortages
Diversity & Inclusion	Includes Women in Aviation, youth engagement, and global diversity efforts	Encourages participation from all regions, promotes girls in STEM & aviation
Alignment with National Priorities	Global-level aviation standards and HR policy alignment	Supports India's UDAN scheme, Drone Ecosystem, MRO growth, Gati Shakti, Skill India, NEP 2020
How They Connect	Sets a global philosophy and framework for workforce development	Acts as grassroots implementation aligned to NGAP vision in the Indian context





NAO as India's Pipeline for ICAO NGAP (Next Generation Aviation Professionals)

The National Aviation Olympiad (NAO) is envisioned as India's flagship youth aviation program, designed to align seamlessly with ICAO's NGAP (Next Generation Aviation Professionals) framework. By fostering early exposure to aviation, NAO aims to transform India's aviation ecosystem and build a robust pipeline of skilled professionals for the next decade.

1. NAO as India's Pipeline for ICAO NGAP

The vision is to position NAO as India's official feeder program for ICAO's NGAP initiative. By engaging students at the school level, NAO directly strengthens India's contribution to ICAO's global mandate of preparing competent aviation professionals. It serves as India's national version of NGAP and can be proposed as a model for developing nations under ICAO's youth aviation framework.

2. NAO as a National Workforce Planning Tool

With India projected to require 1.5–2 lakh aviation professionals in the coming decade, NAO acts as the first touchpoint in building a future-ready workforce. The Olympiad generates annual reports on aviation job trends, provides policy feedback to ministries, and acts as a talent indexing platform. In this way, NAO becomes more than a competition—it evolves into a national HRD indicator for aviation.

3. NAO Aviation Talent Registry (ATR)

A centralised database of aspiring aviation students allows for skill benchmarking, interest mapping, and assignment of career pathways. Institutes and universities can reach out to students, while airlines can use the platform for future talent programs, making NAO a national talent marketplace.

4. NAO Regional Hubs Across India

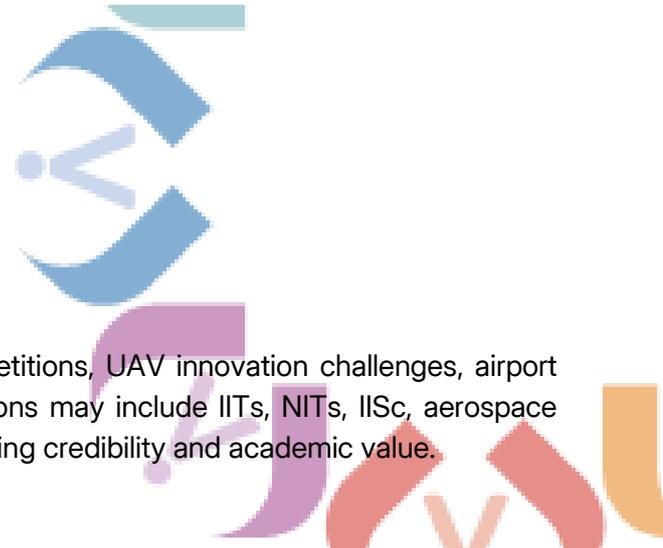
Proposed regional centres in each state will host workshops, simulators, regional finals, and certification awareness programs, creating long-term infrastructure to support the program's vision.

5. Integration with Drone Corridors & New-Age Aviation

NAO incorporates a future-ready segment covering UAV traffic management, electric aircraft, eVTOL, urban air mobility, space careers, digital aviation, AI applications, and sustainable fuel technologies. This ensures students are exposed to the evolving aviation landscape.

6. NAO Scholarship Fund (CSR + Government + Airlines)

A pan-India scholarship initiative will provide support for pilot training, AME courses, BTech Aerospace programs, drone certifications, and ATC coaching. Funding partners can include airlines, OEMs, PSUs, and private corporates, adding a strong human impact component.



7. University & Industry-Led Research Competitions

NAO will host mini research projects, aircraft design competitions, UAV innovation challenges, airport planning contests, and AI safety initiatives. Partner institutions may include IITs, NITs, IISc, aerospace colleges, AASSC, AAI, and DGCA-approved institutions, adding credibility and academic value.

8. NAO Alumni Network

A long-term community platform will provide mentorship, internships, exclusive exposure programs, leadership camps, and access to industry conferences ensuring continuity and depth in participant engagement.

9. NAO App / Digital Platform

The digital ecosystem will feature course modules, videos, simulations, gamified learning, career matching AI, digital certificates and rewards, making the program tech-forward and attractive to young learners.

10. Linking NAO with National Skill Development Agencies

Alignment with AASSC, NSDC, state aviation academies, and drone promotion boards ensures standardized training pathways, government-funded skill courses, and early induction into NSQF programs, enabling students to transition seamlessly into skill or degree pathways.

11. Contribution to Women in Aviation

NAO sets a target of 30–40% female participation, with mentorship, scholarships, and workshops designed to encourage girls in STEM and aviation careers, promoting gender balance in a traditionally male-dominated sector.

12. NAO + India@2047 Aviation Vision

By 2047, India aims to become the third-largest aviation market, a global aerospace manufacturing hub, a drone superpower, and a leader in sustainable aviation. NAO positions itself as a national mission contributing to this vision, moving beyond a simple competition to become an integral part of India's aviation growth story.

Through these initiatives, NAO not only inspires students but systematically prepares them for the future of aviation, building India's talent pipeline and reinforcing its global standing in aviation.