

Aviation Training, Innovation and Workforce Development Hub

Submitted to the Government of Andhra Pradesh

This submission is a response to the Stakeholder Consultation process by The Andhra Pradesh Airports Development Corporation Limited (APADCL) on the Aviation Policy of Andhra Pradesh.

This document is submitted as part of the consultation process led by the Nodal Agency of the Government of Andhra Pradesh to support the development of a comprehensive aviation training and skill development policy. It provides insights and recommendations based on global best practices, industry projections, and India-specific requirements.

Executive Summary

The global aviation sector is poised for unprecedented growth, yet it faces a critical shortage of skilled professionals across pilots, aircraft maintenance engineers, ground operations specialists, and aviation management professionals. Boeing forecasts that the industry will require approximately 2.4 million new aviation professionals globally by 2043, including nearly 649,000 pilots and 690,000 aircraft maintenance technicians, while Airbus projects the global commercial aircraft fleet will nearly double over the next two decades.

India sits at the center of this expansion. According to the International Air Transport Association (IATA), India is expected to become the third-largest aviation market globally within the next decade, driven by rising incomes, expanding domestic connectivity, and increasing international travel demand. Indian airlines, including Air India and IndiGo, have placed aircraft orders exceeding 1,400 planes, underscoring strong confidence in long-term growth. However, meeting this demand requires a substantial increase in trained aviation professionals. Current estimates suggest India will need more than 30,000 additional pilots and a comparable number of maintenance engineers over the coming decades.

Despite this demand, domestic training capacity remains limited. Many aspiring professionals pursue training abroad, leading to high costs and a drain of talent and capital. Developing a robust aviation training ecosystem is therefore a strategic opportunity. States that invest in integrated training infrastructure can position themselves as centres for aviation workforce development, serving both domestic and international markets. Andhra Pradesh is uniquely positioned to seize this opportunity.

GraySpace Law and Policy Consulting in collaboration with GOMSONS AVIATION is prepared to support the State of Andhra Pradesh in refining and implementing these recommendations, helping establish an integrated, future-ready aviation training and skill development hub.

Strategic Opportunity for Andhra Pradesh to become a Global Aviation Training Hub

The Andhra Pradesh draft aviation policy envisions a comprehensive aviation ecosystem spanning airports, airlines, maintenance services, cargo operations, and emerging aviation technologies. Central to this vision is the availability of skilled aviation professionals. Globally successful aviation hubs, such as Singapore and Toulouse, demonstrate that **human capital development is foundational** to aviation growth. These cities have leveraged clusters that combine education, research, and industry collaboration to build globally recognized aviation ecosystems.

Developing a similar integrated ecosystem in Andhra Pradesh could: a) Support India's rapidly expanding aviation sector; b) Generate high-skill employment opportunities for youth and graduates; c) Attract international aviation training institutions and students; and d) Position the state as a global supplier of aviation talent.

With the right policy framework, Andhra Pradesh could serve not only the Indian aviation market but also emerging aviation markets across Asia, Africa, the Middle East and Europe. At the same time, addressing the challenges below is a priority and is essential to ensuring that Andhra Pradesh can build a globally competitive aviation workforce.

Current Challenges in Aviation Workforce Development

The development of a globally competitive aviation talent ecosystem in India faces several structural challenges, **beginning with high barriers to entry**. Aviation training is a highly capital-intensive and regulated sector. Establishing a training academy requires substantial investment in infrastructure, aircraft, simulators, and safety-certified instructors. Regulatory compliance under DGCA (Directorate General of Civil Aviation) guidelines is stringent, covering curriculum certification, operational safety standards, and airworthiness. These factors limit the number of organizations that can provide high-quality training, restricting workforce development and reducing competition, which in turn contributes to higher costs for aspiring professionals. Overcoming these barriers requires targeted policy support, incentives, and structured public-private collaboration to encourage more institutions to enter the sector.

Following are few other structural challenges currently that constrain the development of a globally competitive aviation talent ecosystem in India:

1. **Fragmented training infrastructure:** Existing institutions often operate in isolation, with limited integration between academic programs and operational industry requirements.
2. **Curriculum gaps:** Many aviation education programs struggle to keep pace with evolving industry needs, including digitalization, automation, sustainability, and advanced aviation technologies.
3. **High training costs:** Access to high-quality training, particularly for pilots, remains limited due to financial barriers.
4. **Lack of integrated ecosystems:** India currently lacks large-scale clusters that combine pilot training, aircraft maintenance education, aviation management programs, and research under one unified framework.

Policy Recommendations

Establish Integrated Aviation Training Clusters: Andhra Pradesh should develop purpose-built clusters that co-locate pilot academies, aircraft maintenance institutes, aviation management programs, and aerospace research centers. Such clusters would create economies of scale, foster cross-disciplinary collaboration, and attract technology companies, simulation providers, and research institutions, ultimately forming a comprehensive aviation innovation ecosystem.

Promote International Partnerships: Collaborations with leading global aviation institutions, particularly those aligned with ICAO frameworks, will enhance training quality and international recognition. Joint programs, exchange initiatives, and co-developed curricula can attract foreign students and foster global industry connections.

Strengthen Industry-Academia Collaboration: A dedicated nodal agency should facilitate partnerships between training institutions and airlines, maintenance organizations, airport operators, and aviation service providers. These collaborations can include structured internships, apprenticeships, and simulator-based operational training, ensuring graduates possess skills aligned with real-world aviation operations.

Expand Access to Training Finance: Financial barriers limit access to aviation careers. Policy interventions should include tailored education loans, skill development scholarships, and public-private partnerships for training infrastructure. Broadening financial access will expand the talent pipeline and democratize opportunities in aviation.

Integrate Emerging Aviation Technologies: Training programs must prepare students for the rapidly evolving technological landscape, incorporating digital aviation systems, artificial intelligence, drones, advanced air mobility, and research on Sustainable Aviation Fuel (SAF). Equipping professionals with skills in these areas will maintain India's and Andhra Pradesh's global competitiveness.

Expected Impact

Implementing these recommendations will allow Andhra Pradesh to:

- Meet India's growing aviation workforce requirements while reducing reliance on foreign training pipelines.
- Generate **high-skill employment opportunities** and career pathways in aviation and related industries.
- Attract **international students, training institutions, and investment**, enhancing the state's global visibility.
- Build a forward-looking **aviation innovation ecosystem** that integrates research, training, and industry collaboration.

The Indian Aviation Growth Opportunity

India represents one of the fastest-growing aviation markets in the world. The country has witnessed rapid expansion in passenger traffic, airport infrastructure development, airline fleet expansion, and regional connectivity initiatives.

Government initiatives such as the UDAN Regional Connectivity Scheme, airport privatization programs, and large-scale investments in airport modernization have significantly accelerated aviation sector growth. India is expected to operate one of the largest commercial aircraft fleets globally within the next two decades.

However, this growth also creates an urgent demand for skilled aviation professionals. Current training capacity within India is insufficient to meet projected demand. Many Indian aviation students are forced to seek training abroad due to limited domestic infrastructure, higher costs, or lack of globally recognized certifications.

This represents both a challenge and an opportunity. By strengthening domestic aviation training capacity, India can reduce training outflows, create employment opportunities, and become a global supplier of aviation professionals.

State of Andhra Pradesh Growth Opportunity

The rapid growth of the global aviation sector presents a historic opportunity for India and for the State of Andhra Pradesh. By strategically investing in aviation training and skill development, Andhra Pradesh can position itself at the forefront of aviation workforce development in Asia.

The development of an integrated aviation training ecosystem will generate economic growth, create high-value employment, attract international investment, and strengthen India's aviation capabilities.

Through a collaborative partnership between government, industry, and international institutions, Andhra Pradesh can become a global centre of excellence for aviation training and innovation.

GraySpace Consulting and Gomsons Aviation stand ready to support the Government of Andhra Pradesh in this strategic initiative and look forward to partnering in the design and implementation of this transformative policy initiative.
