

**61ST CONFERENCE OF
DIRECTORS GENERAL OF CIVIL AVIATION
ASIA AND PACIFIC REGION**

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**AGENDA ITEM 8: CAPACITY DEVELOPMENT AND
IMPLEMENTATION**

**ENHANCING AVIATION COMPETENCIES FOR EMERGING
TECHNOLOGIES: BUILDING A FUTURE-READY WORKFORCE**

(Presented by the Republic of the Philippines)

SUMMARY

The paper highlights the importance of developing a future-ready aviation workforce capable of supporting the adoption of emerging technologies, including artificial intelligence, automation, cybersecurity, and digital air traffic management. It emphasizes competency-based training, continuous professional development, and digital skills enhancement to strengthen aviation personnel across all operational areas. The paper identifies challenges including limited training opportunities, varying levels of digital readiness, and a shortage of qualified instructors, particularly in regional airports. It advocates for stronger collaboration among Civil Aviation Authorities, ICAO, training institutions, academia, and industry to address capability gaps through knowledge sharing and capacity-building initiatives. Ultimately, the paper supports CAAP's commitment to building a competent, resilient, and technology-driven workforce capable of effectively implementing ICAO Standards and Recommended Practices (SARPs) and sustaining aviation modernization.

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1. INTRODUCTION

Artificial intelligence, automation, digital air traffic management, and cybersecurity are rapidly transforming aviation. These technologies offer opportunities to enhance safety, security, operations, and environmental protection, while increasing the need for skilled professionals to manage advanced systems. Developing and maintaining this expertise is a key priority for Civil Aviation Authorities in the Asia-Pacific Region.

2. DISCUSSION

A skilled and adaptable workforce is essential for airport operations, safety oversight, security, air navigation management, and regulatory compliance. As aviation systems evolve, staff must develop technical, digital, and leadership skills to implement ICAO Standards and Recommended Practices and advance the sector.

The rapid pace of digital change highlights the need for competency-based education and continuous professional development. Many aviation organizations in the region face challenges such as limited access to specialized training, varying digital readiness, a shortage of qualified instructors, and increased competition for skilled staff. These challenges are often more pronounced at regional airports where maintaining operations while adopting new technologies requires investment in staff training and collaboration with Member States, Civil Aviation Authorities, training organizations, educational institutions, and industry partners.

3. ACTION BY THE CONFERENCE

3.1 The Conference is invited to:

- a) expanding competency-based training, promoting ongoing learning in areas such as artificial intelligence, cybersecurity, automation, and digital aviation systems, and strengthening technical cooperation will help close skill gaps and prepare organizations for future demands. Sharing knowledge, expertise, and training resources across the region will also support more consistent adoption of new technologies;
- b) workforce planning should address future operational and regulatory needs, not only technical skills. This includes identifying emerging skill requirements, developing leadership, planning for succession, and retaining talent to ensure continuity of key aviation functions. As experienced staff retire and technology evolves, maintaining a qualified workforce is essential for effective oversight and resilience; and
- c) regional collaboration can accelerate workforce development by improving access to targeted training, instructor development, and technical expertise. Joint training, exchange programs, and shared educational resources enable Member States to address common skill gaps and apply ICAO Standards and Recommended Practices more consistently. Enhanced cooperation in the Asia-Pacific Region will help build a workforce prepared for new technologies, evolving operations, and global industry demands.

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