International Civil Aviation Organization
Asia and Pacific Office

Twenty-sixth Meeting of the Asia Pacific Regional Aviation Safety Team (APRAST/26)

(Bangkok, Thailand, 9 to 13 November 2026)

Agenda Item 5: Presentations – State / Industry / ICAO

ADVANCING COMPETENCY-BASED TRAINING AND ASSESSMENT (CBTA) AND EVIDENCE-BASED TRAINING (EBT) IN HONG KONG CHINA: REGULATORY FACILITATION, IMPLEMENTATION EXPERIENCE, AND REGIONAL COOPERATION

(Presented by Hong Kong, China)

SUMMARY

Hong Kong, China has embraced the paradigm shift from prescriptive, hours-driven flight crew training toward Competency-Based Training and Assessment (CBTA) and Evidence-Based Training (EBT). This paper outlines the Civil Aviation Department's (CAD) regulatory role in facilitating CBTA/EBT adoption by local airlines in Hong Kong, China, highlighting progress in CBTA/EBT implementation and CAD's continued engagement with industry stakeholders. Key challenges, including data availability, instructors' standardisation, and Just Culture, are examined. States/Administrations are encouraged to consider regional cooperation to harmonise competency models and share implementation experiences across the Asia-Pacific region. The paper also considers how CBTA and EBT may contribute to enhancing flight crew competence and resilience, and thereby support broader efforts to reduce operational safety risks, including those associated with the high-risk categories of occurrences (HRCs) identified in the Asia-Pacific Regional Aviation Safety Plan (AP-RASP) 2026-2028, in support of Goals 1 and 4 of the AP-RASP.

1. INTRODUCTION

1.1 The civil aviation industry is undergoing a transformative phase amid recovery from the global pandemic that significantly impacted the aviation industry. With more emphasis put on developing and maintaining competencies and resilience of safety-critical personnel involved in the daily aircraft operations, CBTA and EBT emerged as increasingly popular solutions for more efficient and effective training.

1.2 The adoption of CBTA and EBT has been advocated by the International Civil Aviation Organization (ICAO) through amendments to Annex 1 (Personnel Licensing), Annex 6 (Operation of Aircraft), in addition to supporting documents, such as the Manual on Evidence-Based Training (Doc 9995) and the Manual on Aeroplane Upset Prevention and Recovery Training (Doc 10011). Notably the Second Edition of Doc 9995 Volume I – Aeroplane Pilots was issued earlier this year, aligning the CBTA procedures contained in the Third edition of the Procedures for Air Navigation Services – Training (Doc 9868) with updates based on industry experience during worldwide implementation of EBT programmes. As aviation activities relevant to Advanced Air Mobility (AAM) and Low Altitude Economy (LAE) continue to grow, CBTA / EBT will foreseeably play an increasingly significant role in enhancing pilots' operational competency and situational awareness in the more complex and evolving aviation environment worldwide.

1.3 The Civil Aviation Department (CAD) of Hong Kong, China recognises that CBTA and EBT represent a paradigm shift in flight crew training — moving from a prescriptive, hours-driven approach to one that is data-driven, risk-based, and focused on the development and assessment of measurable competencies. This paper shares the experience of Hong Kong, China in the implementation of CBTA / EBT by local airlines, outlines CAD's regulatory role in facilitating the initial implementation and highlights recent developments and key challenges identified during the process. It also considers their relevance to the regional objectives of AP-RASP 2026-2028, and potential opportunities for regional cooperation in support of those objectives.

1.4 The AP-RASP reflects the shared regional commitment to the continuous improvement of aviation safety. Goal 1 calls for the continuous reduction of operational safety risks. Within this broader objective, the AP-RASP 2026-2028 identifies five HRCs, namely CFIT, LOC-I, MAC, RE and RI. While CBTA and EBT are not commonly adopted as direct mitigation measures for specific HRCs, by developing and assessing flight crew competencies such as situational awareness, flight path management and workload management etc., they have the potential to contribute to the reduction of operational risks through enhanced flight crew resilience. Regulatory and industrial efforts in CBTA and EBT are therefore consistent with AP-RASP Goal 1, while recognising that their safety benefits are realised through broader safety management and training systems.

2. DISCUSSION

2.1 The CAD welcomes and has been facilitating commercial air transport operators in Hong Kong, China to enhance their flight crew recurrent training and assessment system by introducing CBTA and/or EBT training programmes if these initiatives are considered more compatible with their operational and training needs.

2.2 In order to facilitate a seamless introduction and phased transition to CBTA and/or EBT training programmes, the following key initiatives are deemed crucial and beneficial to the industry:-

a) provision of guidance materials to align with ICAO Standards and Recommended Practices (SARPs) that enable and facilitate the implementation of CBTA / EBT concepts and elements;

b) providing prompt regulatory support to assist aircraft operators in designing and implementing CBTA / EBT programmes;

c) establishing and standardising CBTA / EBT practices amongst Hong Kong aircraft operators for flight crew training and testing programmes; and

d) collaborating with other regulators and international organisations to share experiences in CBTA / EBT implementation under different jurisdictions;

2.3 It is also essential for regulatory authorities to maintain technical competency in the subject matter they oversee. With a view to developing in-house expertise supporting the evaluation of operator's training programmes, CAD has arranged for its regulatory inspectors to undergo ICAO CBTA and EBT training courses and encourages participation in regional seminars and workshops when opportunities arise.

2.4 According to the feedback and lesson learnt from industry engagements during initial implementation of CBTA / EBT programmes, successful implementation of CBTA – particularly of EBT – requires overcoming of a combination of challenges and considerations:-

a) **Data Availability and Quality**: Robust and representative data are critical to the effective implementation of EBT. For operators with small operating scale, the volume of data generated may be insufficient to support meaningful statistical

analysis, posing a challenge to the full implementation of data-driven training design.

b) **Instructor and Assessors' Competency and Standardisation**: The transition to CBTA and EBT requires instructors and assessors to adopt new facilitation and assessment techniques. The upskilling of training personnel remains a key challenge, particularly in the areas of objective assessment and feedback delivery.

c) **Regulatory Complexity**: The alignment of local regulations with ICAO SARPs and the development of a flexible yet robust approval framework requires significant regulatory resources to ensure clarity and consistency.

d) **Integration with Existing Training Systems**: Operators may sometimes face practical difficulties in integrating CBTA / EBT with existing training systems. CAD will continue working closely with operators to identify pragmatic solutions that maintain safety and training standards while enabling innovation.

e) **Data Privacy and Just Culture**: Robust data privacy protections, transparent collection policies and secure handling protocols must be in place to safeguard sensitive performance and biometric data. In addition, effective implementation of EBT hinges on a Just Culture in which flight crew can report errors without fear of punitive action, while accountability for wilful violations is maintained.

2.5 Through a combination of regulatory leadership, capability building, and close industry engagement, Hong Kong, China has been making steady progress in this area. An industry-led EBT conference was successfully convened in Hong Kong, China in September 2026 where regulators, aircraft operators and training organisations shared experiences in implementing EBT programmes within various jurisdictions.

2.6 The challenges identified in paragraph 2.4 are not unique to Hong Kong, China. They are shared across the Asia-Pacific region and are relevant to the operational and organizational challenges identified in the AP-RASP. Addressing these challenges through regional cooperation would therefore support the regional implementation of CBTA/EBT, and contribute to AP-RASP Goal 4 (strengthening collaboration at regional and national levels).

2.7 In summary, CBTA and EBT offer potential benefits in enhancing flight crew competence and resilience, as well as flight safety. Recognising the significant safety benefits these approaches offer, States/Administrations are encouraged to share experiences and discuss potential regional cooperation in developing harmonised competency models and building information platforms regarding flight crew competency. Hong Kong, China stands ready to contribute to the ongoing development of harmonised regional and global standards and guidance in the field of competency-based training. Such cooperation would support the region's collective efforts to enhance safety and capacity building, and would contribute to the implementation of AP-RASP Goals 1 and 4.

3. ACTION BY THE MEETING

3.1 The Meeting is invited to:

a) note Hong Kong, China's efforts in facilitating the implementation of CBTA/EBT by aircraft operators to enhance development of flight crew resilience;

b) share the experiences of CBTA and EBT implementation particularly in respect of flight crew training; and

c) discuss potential cooperation among Asia-Pacific States/Administrations, including the development of harmonised competency models and the building of information platforms regarding flight crew competency. Such cooperation reflects the potential of CBTA and EBT to enhance flight crew competence and contribute to reducing operational risks, in support of AP-RASP Goals 1 and 4.

— END —