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ASSEMBLY — 42ND SESSION

TECHNICAL COMMISSION

Agenda Item 24: Aviation Safety and Air Navigation Priority Initiatives

BRIDGING THE GAP: DEVELOPING STANDARDIZED PSYCHOMETRIC ASSESSMENT GUIDELINES IN PILOT LICENSING TO ENHANCE GLOBAL AVIATION SAFETY

(Presented by Kazakhstan)

EXECUTIVE SUMMARY

Psychometric suitability is a critical, yet under-standardized dimension of pilot competency. While Annex 1 — *Personnel Licensing*, the *Manual of Civil Aviation Medicine* (Doc 8984) and associated guidance material comprehensively address age, medical fitness, and practical skills, there remains a significant global gap in the standardized assessment of psychological attributes essential to safe pilot performance. This paper proposes the development of ICAO-led, evidence-based global guidelines on psychometric evaluation for pilots as a strategic enhancement to existing licensing frameworks.

Pilots operate in a uniquely demanding environment that requires sound judgment, emotional stability, decision-making under pressure, and resilience. Even highly qualified pilots may exhibit unsafe behaviour if underlying psychometric conditions are not adequately evaluated. As aviation is a globally interconnected profession, and safety is a shared responsibility, it is imperative that the international community considers the establishment of a consistent global approach to psychometric assessment.

The proposed initiative is not intended to impose rigid uniformity, but rather to provide harmonized guidance to assist States in integrating validated, science-based psychometric tools into their licensing and oversight systems. This would strengthen the safety net across borders and contribute to ICAO's strategic objectives under the Global Aviation Safety Plan (GASP) and Next Generation of Aviation Professionals (NGAP).

Action: The Assembly is invited to:

a) recognize the importance of psychometric fitness as a key element of pilot competence and aviation safety;
b) invite the ICAO Council to initiate work on the development of global guidance for psychometric assessment in pilot licensing;
c) encourage Member States to share national practices and participate in the guideline development process; and
d) support the establishment of a multidisciplinary expert group under ICAO to lead this initiative in alignment with GASP.

Strategic Goals:	This working paper relates to *Every Flight is Safe and Secure*.
Financial implications:	The financial impacts will depend on approved decisions.
References:	Annex 1 — *Personnel Licensing* Doc 10004, *2023-2025 Global Aviation Safety Plan* Doc 8984, *Manual of Civil Aviation Medicine*

1. INTRODUCTION

1.1 The aviation profession, especially for pilots, entails high cognitive demand, stress tolerance, decision-making speed, and behavioural reliability. These traits are not fully observable through traditional knowledge-based and skill-based assessments alone.

1.2 While Annex 1 — *Personnel Licensing*, the *Manual of Civil Aviation Medicine* (Doc 8984) and related ICAO documents provide extensive frameworks for evaluating medical and technical fitness, no globally harmonized standard exists for evaluating the psychological readiness and personality traits critical to pilot performance.

1.3 The aviation industry has witnessed rare but significant incidents attributable, at least in part, to undiagnosed or unmanaged psychometric conditions. This underscores the urgent need for a coherent international approach.

1.4 Many States have implemented national-level psychometric evaluations in varying forms, but these lack alignment, standardization, and global validation. Consequently, the effectiveness of such assessments varies widely.

2. DISCUSSION

2.1 The global nature of civil aviation means that pilots often operate in diverse jurisdictions, cultures, and operational environments. Yet the assessment of psychological and behavioural competencies remains inconsistent.

2.2 ICAO has successfully advanced global consensus on medical fitness, language proficiency, and flight crew licensing. Establishing psychometric guidelines would be a logical and beneficial extension of these efforts.

2.3 Psychometric evaluation, when properly applied, can assess personality traits, cognitive abilities, stress management, emotional stability, and behavioural tendencies. These are key to maintaining safe operations under both normal and abnormal conditions.

2.4 The absence of standardized guidance has led to challenges in mutual license recognition, oversight, and the assurance of consistent safety levels. A globally accepted guideline would not only support licensing decisions, but also training, selection, and ongoing performance monitoring.

3. PROPOSAL

3.1 It is proposed that ICAO initiate the development of a globally recognized, evidence-based guideline for the psychometric assessment of pilots, which would:

a) outline core psychological attributes relevant to pilot competency;

b) recommend validated psychometric tools and assessment methodologies;

c) offer implementation strategies respectful of cultural and operational diversity; and

d) be adaptable for use at various licensing stages (initial, recurrent, return to duty).

3.2 The guideline would be developed in consultation with Member States, aviation psychologists and relevant international organizations such as International Federation of Air Line Pilots' Associations (IFALPA) and International Air Transport Association (IATA).

3.3 The objective is not to prescribe a mandatory global psychometric test, but to offer a scientifically grounded reference model that can be voluntarily adopted or adapted by States.

4. IMPLEMENTATION STRATEGY

4.1 ICAO may consider forming a multidisciplinary expert group under the Personnel Training and Licensing Panel (PTLP) or a dedicated task force. The group would conduct a global review of current practices, assess best available science, and develop a draft guideline in coordination with recognized experts.

4.2 A phased approach is recommended:

Phase 1: Feasibility study and expert consultations;

Phase 2: Drafting of baseline guideline document;

Phase 3: Voluntary pilot implementation by interested States; and

Phase 4: Refinement and publication as ICAO guidance material

4.3 ICAO could also support Member States with workshops, templates, and implementation guidance, particularly those with limited resources or expertise in psychological evaluation.

5. CONCLUSION

5.1 Ensuring the psychometric fitness of pilots is a necessary enhancement to aviation safety oversight and a vital complement to existing licensing criteria.

5.2 ICAO leadership in this area would help close a critical gap, improve consistency in licensing standards, and contribute to a safer, more resilient global aviation system.

5.3 Kazakhstan respectfully submits that such a framework would be an important milestone aligned with ICAO's strategic goals and urges careful consideration of this proposal.

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