



**WORKING PAPER**

**ASSEMBLY — 40TH SESSION**

**EXECUTIVE COMMITTEE**

**Agenda Item 25: ICAO Civil Aviation Training and Capacity Building**

**VR/AR TECHNOLOGY APPLIED TO PERSONNEL TRAINING**

(Presented by United Arab Emirates)

**EXECUTIVE SUMMARY**

Virtual Reality/Augmented Reality (VR/AR) Technology could enhance the personnel's training system by offering efficient and effective training means. The Industry appears to be ready for such leap towards a revolution in training techniques approach; however, international acceptance and standards are missing to ensure that States and Industry can smoothly adopt these technologies.

**Action:** The Assembly is invited to:

- a) urge States to recognize VR technology to build up Basic practical experience required as per ICAO training manual (DOC 7192) Part D-1 which could build an effective and efficient knowledge within License holders;
- b) urge States to use VR technology to prove and demonstrate the ability to perform the function applicable to the Engineering licence to be granted;
- c) promulgate guidance to States to encourage them to embark into VR technology;
- d) encourage State of Design to participate in the success of adoption of VR technology since such methods are highly depending on Original Equipment Manufacturers (OEMs) data; and
- e) urge States and OEMs to adopt the use of VR technology relevant to the aircraft maintenance licence holder and airworthiness requirements.

<i>Strategic Objectives:</i>	This working paper relates to Strategic Objectives: Safety, Air Navigation Capacity and Efficiency, and Economic Development of Air Transport
<i>Financial implications:</i>	
<i>References:</i>	Doc 7192 <i>Training Manual</i> , Part D-1

## 1. INTRODUCTION

1.1 VR is the use of computer technology to create a simulated environment. Unlike traditional user interfaces, VR places the user inside an experience. Instead of viewing a screen in front of them, users are immersed and able to interact with 3D worlds.

1.2 As per Aircraft OEMs, VR brings real benefits and value, making it possible to simulate and reproduce situations in a safe environment that would otherwise be costly, complex or even dangerous. In recent years, virtual and augmented reality have become more mobile and easier to use than ever, creating the potential to completely transform many areas of business.

1.3 The United Arab Emirates (UAE) has initiated a project to adopt VR technology training for Maintenance licensing.

1.4 The UAE has drafted a plan that contains technology understanding, benchmarking, and also industry awareness. The expected outcome is to obtain an in-depth experience to new training paradigm shift in using new technologies available in Aviation Industries.

## 2. DISCUSSION

2.1 The UAE feels that technology has reached an acceptable maturity level to adopt it for the purposes of aircraft maintenance training.

2.2 Such initiative can't be completed unless there is a wider recognition by the aviation community, which includes OEMs and States.

2.3 Indeed, OEMs play an important role because such training should be as representative as a real aircraft in order to provide the same outcomes.

2.4 States need also to develop new means to:

- a) approve/accept such technology for the intended purposes;
- b) recognize such technology during validation or conversion process, or during the need for engineer outside their geographical localization;
- c) approve/accept the VR technology for Aircraft basic Experience and practical modules training; and
- d) approve /accept the VR technology in the process of practical training and assessment for type of training in accordance with OEMs requirements.