



WORKING PAPER

ASSEMBLY — 40TH SESSION

EXECUTIVE COMMITTEE

Agenda Item 26: Other high-level policy issues to be considered by the Executive Committee

URBAN AIR MOBILITY

(Presented by the United Arab Emirates)

EXECUTIVE SUMMARY

The concept of urban air mobility has become more significant since the last Assembly. Mega cities around the world seek Urban Air Mobility as a novel mode of air transport to overcome ever increasing road traffic congestion. Due to the novelty, the aviation regulatory systems around the world lack in established regulations due to non-availability of ICAO Standards and Recommended Practices (SARPS) for such mode of Air Transport. Also, due to different approach for certification basis between different States of Design.

This type of operation will eventually expand to International Commercial Air Transport due to its potential operations between border cities of two neighbouring States.

The UAE is developing a feasible regulatory framework to oversight a safe operation in the future of Urban Air Mobility. The salient features to consider would be the unmanned operation and expected environmental challenges related to the noise level generated specifically to the nature of operation being close to the public and urban areas.

Action: The Assembly is invited to:

- a) request ICAO to invoke its established processes to assess this novel mode of air transport with a view to establish the scope and priority of the work required by ICAO on this subject (including SARPs and guidance material;
- b) request ICAO to develop new processes as necessary to keep pace with the developments in this new area; and
- c) direct ICAO to consider potential unmanned operations (Remotely piloted) while developing the SARPs and guidance for Urban Air Mobility.

<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>	

1. INTRODUCTION

1.1 The concept of Urban Air Mobility Operation has gained attention of mega cities that are seeking for a solution to the ever increasing road traffic congestion. The original equipment manufacturers (OEMs) of Unmanned Air Vehicles and potential Start-Ups are enthusiastic to invest into this rapidly evolving new market segment in aviation industry.

2. DISCUSSION

2.1 Due to the novelty of the concept, certification approach and operational rules are considerable challenges for the subject matter experts to overcome.

2.2 The challenges are numerous:

2.2.1 National Aviation Authorities (NAAs) are challenged to define the Certification Basis and appropriate Operational Rules for this type of aircraft that is intended for commercial operations which may fall in between various combination of well-defined certification categories such as General Aviation and Small Helicopters

2.2.2 At the moment there is a lack of guidance at ICAO level to assist Member States to establish a regulatory framework to regulate and oversight Urban Air Mobility Operations. Although currently most OEMs contingent on general aviation and small helicopter standards, there is a need to develop guidelines at ICAO level to standardize this operation across the globe and help the States to establish regulations based on the ICAO SARPs and guidelines.

2.2.3 Industry is investing hugely in technology, researches and development for the appropriate systems such as propulsion, fly-by-wire, battery cells technology, etc.

2.2.4 Existing SARPS and ICAO documents are primarily based on manned operation whereas unmanned operation (remotely piloted) concept is not addressed.

2.2.5 For a successful assimilation and commercially viable Urban Air Mobility operations, the necessity of unmanned aircraft operations is vital. Hence, to achieve public acceptance it requires extensive research related to the reliable (adaptable) technology, legal framework for artificial intelligence/ machine learning.

2.2.6 Expected environmental challenges related to the noise levels generated specifically to the nature of operations being close to the public and urban areas, and special consideration for public acceptance.