



**WORKING PAPER**

**ASSEMBLY — 40TH SESSION**

**EXECUTIVE COMMITTEE**

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

**REPORT ON COMMERCIAL SPACE TRANSPORT (CST)**

(Presented by the Council of ICAO)

**EXECUTIVE SUMMARY**

This paper presents an overview of the emergence of commercial space transport (CST) and its overlap with the existing air transport sector. While CST operations do not yet occur on a regular basis, it is important to consider and monitor their development as they may become regular before the next session of the ICAO Assembly.

**Action:** The Assembly is invited to adopt the Assembly Resolution proposed in the Appendix to this paper.

<i>Strategic Objectives:</i>	This working paper relates to all Strategic Objectives.
<i>Financial implications:</i>	The activities referred to in this paper will be subject to the resources available in the 2020-2022 Regular Programme Budget and/or from extra budgetary contributions.
<i>References:</i>	C-WP/14811 C-DEC 215/7 C-DEC 215/5 Doc 10115, <i>Report of the Thirteenth Air Navigation Conference</i> , Corrigenda Nos. 1 and 2, and Supplement No. 1 Doc 10075, <i>Assembly Resolutions in Force (as of 6 October 2016)</i>

## 1. INTRODUCTION

1.1 Over the past decade, progressive developments in the commercial space transportation industry sector have resulted in an increase in the frequency of suborbital and other space launches. This trend is expected to continue. While currently, most launches are managed through segregation of mainly domestic and high-seas airspace, the frequency of operations will become more regular and their trajectories will transcend national boundaries. To that end, important issues related to this sector in general, and to its safe accommodation in airspace in particular, must be studied and addressed.

1.2 The 2018 and 2019 Council Off-site Strategy Meetings focussed on “Aviation of the Future” and focussed much discussion on the topic of Commercial Space Transport (CST) During its 215th Session, the Council endorsed an Action Plan for the future of aviation (C-DEC 215/7 and ISPG Oral Report on the 2018 Council Off-site Strategy Meeting refer) to enable ICAO to adapt its work programme under the Regular Programme Budget, in order to meet the challenges of aviation of the future, including commercial space transport (CST). The Council concluded that ICAO should include the commercial space sector within its mandate, based on Article 44 i) of the Convention on International Civil Aviation and agreed that the “Council will propose the inclusion of higher altitude operations, including commercial space sector, within the mandate of ICAO to the Assembly for decision at the appropriate time.”

1.3 Subsequently, the matter was discussed at the Thirteenth Air Navigation Conference (AN-Conf/13) which resulted in Recommendation 5.5/2, quoted in its entirety below for convenience.

### **Recommendation 5.5/2 — Commercial space transport (CST)**

In recognizing the issues related to commercial space transport (CST) operations potentially affecting international civil aviation, including the safe accommodation of CST operations in airspace and the joint use of aerodromes and other aviation infrastructure:

That States:

- a) and stakeholders support ICAO activities in the CST field through the sharing of relevant expertise;
- b) share guidance material, best practices and national provisions related to commercial space operations through controlled airspace, including risk models and the application of relevant safety management principles;

That ICAO:

- c) coordinate its work related to CST operations with the United Nations Office for Outer Space Affairs; and
- d) establish a means to facilitate the sharing of information as applicable to the interaction between aviation and commercial space transport.

1.4 The subject of space flights was also discussed at the 37th Session of the Legal Committee (LC) (4 to 7 September 2018) which reported to the Council (C-WP/14811 refers) that, "...the Committee decided not to include the item [in its work programme] at this Session. This notwithstanding, the Committee emphasized that it would not be pre-empted from giving further consideration to this item at its next Session. For that purpose, the Committee invited States to consider submitting working papers at its next Session."

1.5 In the meantime, the LC recalled its decision at the 36th Session to task the Secretariat to monitor any new developments on this item by participating in seminars and other activities in different fora. The Secretariat confirmed that collaboration and exchange of information with the United Nations Office for Outer Space Affairs (UNOOSA) had occurred and will continue on a regular basis. To this end, the Secretariat indicated that a monitoring report on this item will be presented to the LC for consideration at its next session.

1.6 In approving the LC's general work programme, the Council reserved the right to give additional instructions to the LC if necessary, especially with regard to the issue of commercial space flights (C-DEC 215/5 refers).

1.7 Since the discussions held at AN-Conf/13, at least one operator, *Virgin Galactic*, has successfully operated consecutive suborbital flights.

## 2. DISCUSSION

2.1 The consideration of technical matters affecting air navigation was thoroughly discussed at AN-Conf/13 and Recommendation 5.5/2 was subsequently endorsed by the Council. The implementation of the recommendation will follow established ICAO procedures. To that end, it can be considered that the technical work of the Organization on CST remains valid and up-to-date. It should be further noted that as the sector evolves, the technical work programme of the organization will be adjusted accordingly and in a timely manner.

2.2 The overlapping nature of CST operations, between the air and space domains, however, has created some uncertainty about the role of ICAO in this sector. Indeed, the Organization has competencies in certain CST areas, specifically: accommodation of CST in air space; the joint use of infrastructure; the co-location of airports and spaceports; the use of aircraft as launchers; and the phases of flight of space vehicles that use the interaction with the atmosphere to derive lift.

2.3 There are, of course, clear competencies in the CST area of other United Nation organizations, including the UNOOSA and the International Telecommunications Union (ITU).

## 3. CONCLUSION

3.1 The consideration of CST in the technical and legal work programmes has recently been acted on by the Council based on the reports of the COSM2018, AN-Conf/13 and the 37th Session of the Legal Committee. The proposed Assembly Resolution is intended to clarify the role of ICAO in order not to inhibit the development and growth of this emerging sector.



## APPENDIX

### DRAFT RESOLUTION FOR ADOPTION BY THE 40TH SESSION OF THE ASSEMBLY

#### **Resolution A40-x: Commercial space transport (CST):**

*Whereas* Article 44 of the *Convention on International Civil Aviation* states that among the aims and objectives of ICAO are development of the principles and techniques of international air navigation and fostering of the planning and development of international air transport so as to meet the needs of the people of the world for safe, regular and economical air transport;

*Whereas* Article 37 of the *Convention on International Civil Aviation* states that the Organization “...shall adopt and amend from time to time, as may be necessary, international standards and recommended practices and procedures deal with...such other matter concerned with the safety, regularity, and efficiency of air navigation as may from time to time appear appropriate.”

*Whereas* the Thirteenth Air Navigation Conference (AN-Conf/13) considered the technical aspects of commercial space transport (CST), in particular its intersection with aviation and the Council endorsed the AN-Conf/13 Recommendation on CST;

*Recognizing* the interrelation between international air and outer space law principles in regards to CST operations;

*Recognizing* the relevance of ICAO’s mandate in: the accommodation of CST in air space; the joint use of infrastructure; the co-location of airports and spaceports; the use of aircraft as launchers; and the phases of flight of space vehicles that use the interaction with the atmosphere to derive lift;

*The Assembly:*

1. *Reaffirms* the role of ICAO in developing policy guidance in the areas where international CST operations intersect with international civil aviation;
2. *Directs* the Council to instruct the Secretary General to consult States on the role of ICAO and to further coordinate with States, governmental and non-governmental organizations, the private sector, academia and the relevant United Nations system entities to monitor the progress and evolution of commercial space transport and to address emerging issues, including the impact on international civil aviation operations.

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