

IAF COMMERCIAL SPACEFLIGHT SAFETY COMMITTEE (CSSC)

Introduction

The present brief has been prepared to provide an outlook of the major areas onto which the CSSC focused from the second part of 2023. The 74th IAC was successfully held on 2-6 October in Baku, Azerbaijan.

Summary



SPACEPORTS: The 11th European Spaceport Forum (ESF) meeting was held at DLR, Braunschweig, Germany on 28-30 November 2023; the involved European Countries discussed their status on Spaceport development and relevant space access initiatives.

REGULATORY: Italy is pursuing the regulations for suborbital flights in the Country; the latest issue of the Italian Spaceport Regulatory System is posted on the Italian Civil Aviation Authority website, dated October 2022; activities continue for follow ups with regulatory aspects. Activities are going on by a selected Group of Companies to develop the design feasibility study for the Italian Spaceport of Grottaglie.

Last year, the FAA licensed a record 79 launches and 5 reentries. This year we could break that record again, just SpaceX alone is planning up to 100 launches in 2023, briefed to AST in February.

- SpaceX Private Astronaut Missions in 2023 – Axiom-2 and Polaris Dawn
- Starship-Super Heavy – the FAA is working with SpaceX to conduct the first test launch from Boca Chica, TX soon, pending FAA authorization.
- Blue Origin Mishap and New Shepard Return to Flight Blue Origin NS-23 Findings | Blue Origin
- Increasing responsibility and need for commercial space operators to coordinate international hazard area warnings (NOTAMs and NOTMARs), as operations are broadening their impact to more regions around the globe. Governmental agencies are playing a key role in coordination and facilitation, and AST is working closely with the two entities mentioned below:
 - NAVAREA coordinators have established a space maritime working group;
 - FAA ATO is leading international airspace coordination through a new process;
 - FAA did a virtual international workshop on Airspace Integration for 15 countries on February 16;
 - About 30 companies are in early Pre-Application/initial discussions with FAA. This is an indicator of strong space investment and commercial space transportation activity;
 - For 2023, FAA is planning on starting new Aerospace Rulemaking Committees (SpARC): 1) Financial Responsibility; and 2) Human Space Flight

The second School on Suborbital Flights took place in Taranto Italy at the Aragonese Castle on September 11-15, 2023, organized by the Polytechnic School of Bari, Italy.

The School had the purpose of fostering development in the field of modern spacecraft and launch systems, for which several technological challenges have to be tackled by providing an overview of the scientific,

commercial, operational, and regulatory aspects of suborbital flight through seminars and panels by experts, institutional representatives and companies in the sector.

The SpaceLand network of low-cost Microgravity Flight Ports is getting started with a first Center of Excellence welcoming industry professionals, users and the public in an emerging aerospace park strategically located not far from Italy's Torino and the lake of Geneva, headquartering the management of the global network initially including a second location in Mauritius for Africa and the Indian Ocean Countries. Democratizing the Space Economy for All and for real, such Centers will be preparing people, STEM payloads and satellite components for unique Boeing 757-0G R&D and test flights in Microgravity, Moon-gravity, and Mars-gravity as well as initiating history-first aero-launching in Europe, at much lower costs, benefitting from a larger space and providing longer time and higher quality of microgravity with respect to current competitors.

Dawn Aerospace completed phase 1 of the Mk-II Aurora Jet and is progressing towards the preparation of Phase II, which includes progressive test campaigns under rocket power to reach the 100 Km Karman Line apogee. The commercial version of the MK-II remotely-piloted, reusable rocket plane is designed to fly multiple times a day from a runway. The Mk-II will take off horizontally, fly a parabolic trajectory at Mach 3+, and glide back to a horizontal landing at the originating site or downrange.



Highlights

The number of licensed commercial flights is relevant and has the potential to increase in the USA. Europe is catching up with growing interest in Spaceports, infrastructures, regulatory aspects. Several spaceports in Europe are progressing with their activities to outfit proper gateways for access to space.

Future Outlook

Increase the interest in Commercial Space Safety and the awareness of how this discipline is paramount to the development of Commercial Spaceflight; Increase the networking activities and foster mutual exchange of information and dialog, Monitor the current initiatives for commercial space access and their technological developments, Increase awareness on safety issues and provide advice to the community, Focus is now on preparation of the 75th IAC in Milan, Italy scheduled for 14-18 October 2024.

Committee Activities

Foster mutual relationship and networking, engage young students in the Committee Activities, support industry with recommendations in the specific field, attract more participants in the Committee, spread the word for IAC 2024 in Milan, Italy. Encourage attendance to events organized by the International Association for the Advancement of Space Safety (IAASS), <https://iaass.space-safety.org/events/conferences/>