

IAF Committee Briefs

2024

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 first part of 2024.

It was a pleasure like every year to meet everybody in Paris for the Spring Meeting to network and set forth for organizing the 75th IAC Congress in Milan, Italy in October 2024.



Summary

SPACEPORTS: The European Spaceport Forum (ESF) is took place in November 28th and 29th 2023 in Braunschweig Germany; -The “European Commercial Spaceport Forum” (herein known as the “Forum”) brings together several European countries active in light spacecraft launch and suborbital flight. Its overarching objective is to work together to make Europe an attractive place for commercial launch services of light spacecraft in LEO and suborbital flights. The Last ESF took place on April 16th and April 17th 2024 at Cornwall Spaceport Facility, UK.

REGULATORY: Italy with effort led by ENAC is working on the regulation on construction and operations of Spaceports in the Italian Country and is currently

focusing on Spaceport Fire Protection, Explosive storage and Toxic Hazards. Suborbital flight and air launch capabilities are of special interest to Italy, and in general Horizontal Take off and Landing multi purpose spaceports.

ESA is continuing the development of the Space Rider System with extensive participation of the Italian Aerospace Industry.

Italy is working on the Lunar City Platform, the first Metaverse Platform exclusively dedicated to Space, which will be presented during a dedicated IAC GNF in Milan. Lunar City will have several applications in education, training, payload support and general dissemination of the Space Culture.

FAA New Regulatory Guidance for Commercial Space Safety: FAA has issued 27 Advisory Circulars (AC) that provide one, but not the only, acceptable means of compliance with the various requirements of the commercial space licensing regulations. The FAA will consider other means of compliance that an applicant may elect to present.

The FAA holds workshops to provide a deep dive into the Part 450 launch and reentry licensing regulations. This is one of several FAA educational outreach efforts designed to help commercial space operators develop and submit a quality application to achieve a more expeditious license approval.

The FAA recently posted best practice guidance for commercial spaceport security recommending a layered approach. It was developed after the FAA and other federal agencies conducted threat and vulnerability assessments at FAA licensed commercial spaceports

SpaceLand is finalizing the first phase of its ambitious project to transform Mauritius into a tropical Center of

Excellence for future-facing education and engagement in microgravity STEM open to All.

This initiative will leverage the unique ground and flight facilities being developed by the group on this paradise island, focusing on “spin-ins” from SpaceLand proprietary, self-funded Moon-to-Mars exploration-related engineering support initiatives. Final goal is to enhance the quality of life for the general population in Africa and the Indian Ocean, particularly addressing the daily needs of the less fortunate, thanks to the unique opportunities of the SpaceLand Center presented by the Head of State to the United Nations. Among SpaceLand primary objectives are the innovation of science-oriented tourism and the creation of new knowledge intensive jobs in Africa. In particular, this will be achieved through a multi-disciplinary Mars Habitat demonstrator, designed by SpaceLand senior engineers and architects also in charge of the 2026 Olympic Games: novel Mars-gravity laboratories, environments, facilities and tools will be provided to scientists, students, tourists and the general public to increase Space-awareness and inclusivity, also fostering open-door development of microgravity technosciences, small satellite aero- launching services, eco-sustainable housing construction ISRU methods and human longevity extension study projects.

Dawn Aerospace is continuing the development road map of Mk-II AURORA Project, currently in Phase 1; upgrades to supersonic flight are being evaluated, including certification process, upgrade of engine test facility, new avionics suite, qualification of RCS Thrusters, expansion of DUTCH Offices. Tawhaki was introduced, a joint venture with New Zealand Government, to provide a national aerospace centre.

The DAC Aerospace District/Trans-Tech in Italy is keeping up with the development of the suborbital hypersonic HYPLANE project with high-altitude air-launch capability to inject 100 kg satellite into LEO. See both the following figures for Dawn Aerospace and Trans-Tech respectively:



Space Renaissance International, a “Space Philosophical Organisation” is shaping up and continues with the development of their goals and their mission to facilitate the development of mankind as an interplanetary society, with aspirations to see humanity grow to become an interstellar civilization.

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, On the wake of the very successful IAC Spring Meeting 2024, focus on preparation of a very successful IAC Congress in Milan in 2023.

Committee Activities

Foster mutual relationship and network with periodic teleconferences, try to engage young students in the Committee Activities providing support to their university CV development, support industry with recommendations in the specific field, attract more participants in the Committee, spread the word for IAC 2024 in Milano. Encourage attendance to events organized by the International Association for the Advancement of Space Safety. Cooperate with other technical committees to maximise efficiency.