

Space Safety is No Accident

Tommaso Sgobba • Isabelle Rongier
Editors

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The 7th IAASS Conference

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PREFACE

The International Association for the Advancement of Space Safety (IAASS) is a non-profit organisation dedicated to furthering international cooperation and scientific advancement in the fields of space systems safety and sustainability. IAASS is a member of the International Astronautical Federation (IAF) and Permanent Observer at the United Nations Committee on the Peaceful Uses of Outer Space (UN COPUOS). The association exists to help shape and advance an international culture of space safety (technical, organisational, and socio-political), which could contribute to make space missions, vehicles, stations, extra-terrestrial habitats, equipment, and payload safer for the general public, ground personnel, crews, and flight participants. The association also pursues the safeguarding of the on-orbit, atmospheric, and ground environment during space systems and associated ground infrastructure operations.

CONFERENCE PURPOSE AND GOALS

The seventh IAASS Conference “*Space safety is no accident*” is an invitation to reflect and exchange information on a number of topics in space safety and sustainability of national and international interest. The conference is also a forum to promote mutual understanding, trust, and the widest possible international cooperation in such matters. The once exclusive “club” of nations with autonomous sub-orbital and orbital space access capabilities is becoming crowded with fresh and ambitious new entrants. New commercial spaceports are starting operations and others are being built.

In the manned spaceflight arena a commercial market is becoming a tangible reality with sub-orbital spaceflights and government use of commercial services for cargo and crew transportation to orbit. Besides the national ambitions in space, the international cooperation both civil and commercial is also gaining momentum. In the meantime robotic space exploration will accelerate and with it the need to internationally better regulate the usage of nuclear power sources. Space bound systems and aviation traffic will share more and more a crowded airspace, while aviation will increasingly rely on space-based safety-critical services. Finally, most nations own nowadays space assets, mainly satellites of various kinds and purpose, which are under the constant threat of collision with other spacecraft and with the ever-increasing number of space debris. Awareness is increasing internationally (as solemnly declared since decades in space treaties) that space is a mankind asset and that we all have the duty of caring for it. Without proactive and courageous international initiatives to organise space, we risk to negate access and use of space to future generations.

The seventh IAASS Conference will in addition dedicate a set of specialised sessions to three topics which need to get better attention in space programmes: *Space Debris Remediation*, *Space Situational Awareness and International Space Traffic Control*, and *Commercial Human Spaceflight Safety*. Active removal from orbit of “dead” satellites and spent launcher upper stages, and international coordination of space traffic are mandatory for safe orbital operations, and for the safety of the public on ground. Instead the safety of commercial human spaceflight is a critical element for the expansion, and perhaps even continuation, of human spaceflight. The success of commercial spaceflight will be determined by a substantially higher level of safety and not solely by cost reductions.

These special sessions will provide participants insight, innovative strategies, and open discussion into these important aspects of space safety.