



IAASS



***International Association for the
Advancement of Space Safety***

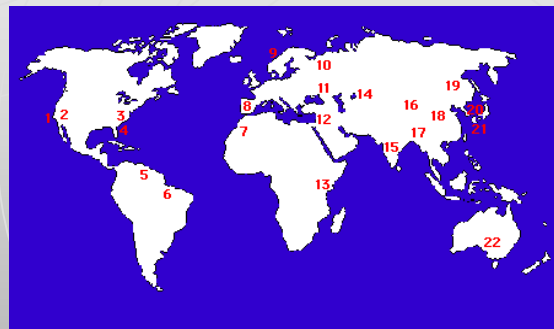
“Over the long run the safety of all human beings in the global commons of space is a responsibility that must be shared by all space-faring powers”

(G.Rodney, NASA Associated Administrator S&MA, 40th IAF Congress, October 1989, Beijing – China)

www.iaass.org

About Space Safety

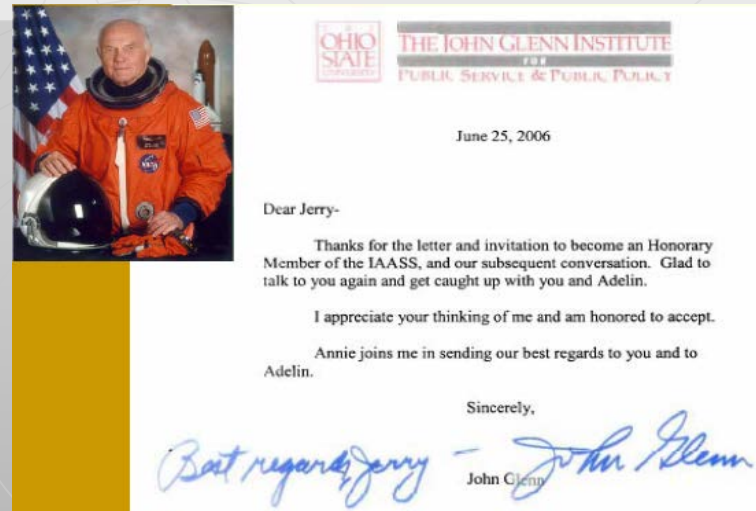
- Safety of space missions refers to the safety of general public (on ground, in air and at sea), launch range personnel, and humans on board.
- Space safety also encompasses the safeguard of valuable assets on orbit (e.g. telecommunications satellites, global navigation systems, etc.), and the safeguard of space, air and ground environment.
- The risks related to space missions are often of international nature (e.g. launch and re-entry operations, on-orbit collisions, etc.)



Main Space Rockets Launch Sites

Introducing IAASS

- A non-profit organisation dedicated to furthering international cooperation and scientific advancement in the field of space systems safety
- Legally established 16 April 2004, The Netherlands
- Since October 2004 member of IAF (International Astronautical Federation)
- June 2006, former US Senator John Glenn and first American to orbit became Honorary Member
- June 2010, IAASS granted Observer status at the United Nations COPUOS (Committee on the Peaceful Uses of Space)





*Tommaso Sgobba
IAASS President*

MISSION

Advancing space safety forms the foundation of our endeavour. Compared with the vastness of political, financial and intellectual resources that space programs require our forces are minute, truly a drop in the ocean. Nevertheless, we want to be that drop and indeed a catalyst drop. We are committed, through the knowledge and dedication of our members, to internationally advance space safety as parents are to their children, to help finally ensure that:

- No accident shall ever happen because the risk was badly measured or willingly underestimated;**
- No accident shall ever happen because the necessary knowledge was not made available to others;**
- No accident shall ever happen because of lack of management commitment and attention;**
- No accident shall ever happen because lack of personal accountability makes people negligent.**

Strategic Drivers

- ✓ Advancing safety is not only a moral duty but a key element to expand space programs and make them more economically viable.
- ✓ Space commercialization and international cooperation in civil space programs is the way ahead. It requires an international safety culture!
- ✓ The international dimension of public safety risk will become more and more evident (launch/re-entry risk, on-orbit collision risk, space debris, NPS use).
- ✓ Need for an integrated (airspace/outerspace) international regulations system to cover traffic and safety of aero-space operations (emerging suborbital space-planes, space-based safety critical services, etc.).
- ✓ Need for uniform international space safety standards to ensure fair competition in the global (space) market.



Association's Goals

The IAASS aims to:

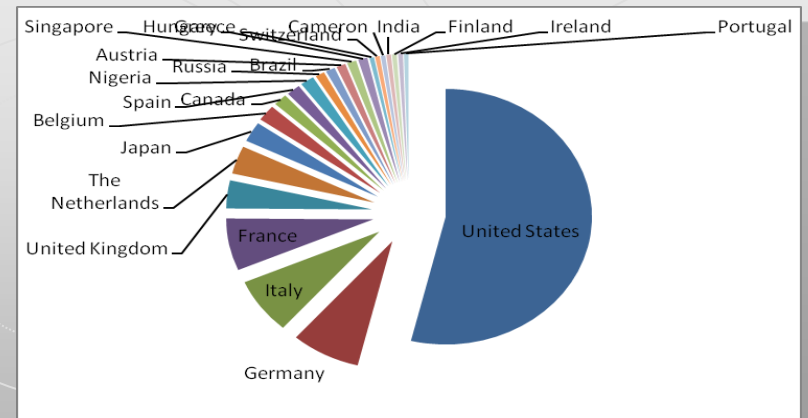
- Advance the science and application of space safety
- Improve the communication, dissemination of knowledge and cooperation between interested groups and individuals
- Improve understanding and awareness of the space safety discipline
- Promote and improve the development of space safety professionals and standards
- Advocate the establishment of safety laws, rules, and regulatory bodies at national and international levels for the civil/commercial use of space



Membership Policy

- ✓ The Association is based on the intellectual interaction of individual members who together shape the technical vision of the association, and make the association services available to stakeholders (on a non-profit basis)
- ✓ Corporate and institutional members of the Association have a sponsoring role and are the primary target of the association services
- ✓ Only individual members have voting rights

The association counts more than 200 professional members from 25 countries. 55% of the members are from industry, while the remaining 45% come from space agencies, governmental institutions and academia



Which role for Academia?

- The Association is the ideal ground for academic world to meet and interact with industrial and institutional organisations.
- By attracting academic interest and involvement in space system safety research activities, the Association counts to effectively advance space safety to new levels and to establish space safety as an autonomous technical discipline.
- The IAASS is developing a series of university textbooks and specific academic programs, such as Academic Certificate in Space Safety, safety courses at the International Space University (ISU) and PhD opportunities.



Primary Services

- ✓ Facilitate information exchange between members through networking, newsletters and website;
- ✓ Organisation of safety conferences and seminars;
- ✓ Establishment and maintenance of a world-class searchable database of published and electronic knowledge (on-line IAASS-Knowledge Management System operational since January 2006, currently being upgraded);
- ✓ Performance of independent research and studies (e.g., *An ICAO for Space?* to be published as part of the *Studies in Space Policy* series of the European Space Policy Institute);
- ✓ World-class space safety educational and training programme;
- ✓ Establish (or participate in) safety standardisation working groups;
- ✓ Scientific publications and university textbooks.



IAASS Space Safety Academy

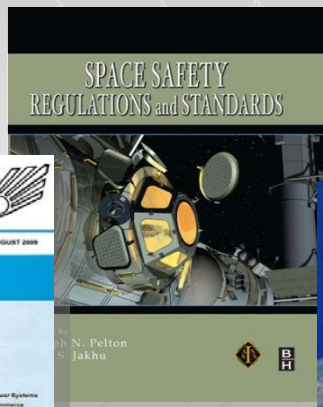


Publications



March 2009

Special issue on Space Safety edited by IAASS - December 2009



August 2010



Safety Design for Space Systems, Chinese Edition - August 2011



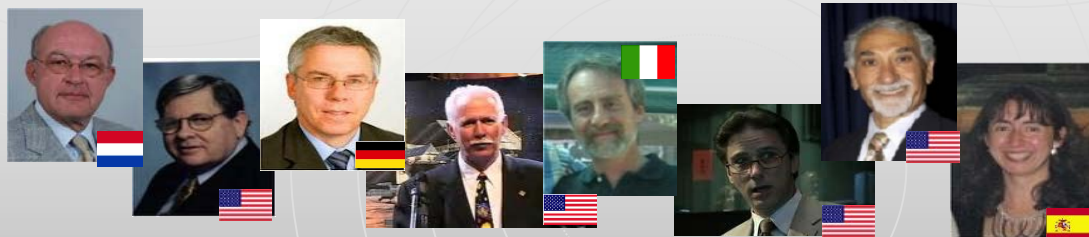
September 2011



Organisation

The IAASS Board is the policy governing body of the association. It is chaired by the IAASS President, and may comprise up to 30 physical persons elected by the General Assembly. The IAASS Board includes also Regional Representatives which are elected by the regional members of IAASS (currently: Africa, China, Europe, India, Japan, North America, Russia and South America).

A section of the IAASS Board (i.e. the Standing Committees Chairmen) constitutes the IAASS Executive Committee, which ensures the operations of the Association together with the Executive Director, the Technical Director, and the Secretary



Executive Committee

Organisation: Technical Committees

Professionals from agencies, industry and academia which satisfy criteria of expertise and excellence compose the seven IAASS Technical Committees:

- ❖ Technical Director – A.P. Menzel, EADS-Astrium
- ❖ Space Exploration & Systems Safety – D.F. Mikula, The Boeing Company
- ❖ Launch Range Safety – T. Pfitzer, APT-Research
- ❖ Space Hazards – Dr. W. Ailor, The Aerospace Corporation
- ❖ Space Safety Laws & Regulations – Prof. R. Jakhu, McGill University
- ❖ Human Factors & Performance for Safety – M. Trujillo, ESA
- ❖ Suborbital Space Safety – A. Quinn, Saturn SMS Ltd.



Organisation: Standing Committees

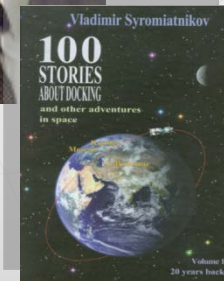
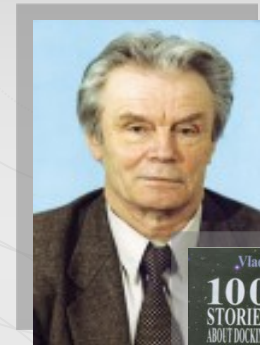
Any member of the Association can volunteer to fill vacancies in the Standing Committees:

- ❖ Information & Communication
- ❖ Membership
- ❖ Young Professionals
- ❖ Professional Training
- ❖ Conference Planning
- ❖ Awards
- ❖ Academic



“ Vladimir Syromiatnikov Safety-by-Design Award ”

- ✓ The *V. Syromiatnikov Safety-by-Design Award* is a means for IAASS to honour outstanding designers and engineers who have made major technical contribution toward systems safety
- ✓ Named in honour of Vladimir Syromiatnikov (1934-2006) the Russian designer of one of the most successful piece of space hardware, the docking system APAS. The APAS was used in the Apollo-Soyuz Test Project in 1975, successful in more than 200 dockings of Soviet/Russian, spacecraft, on the Shuttle and on the International Space Station



IAASS *V. Syromiatnikov Award*
Winner 2010: Dr. Kyoichi Kuriki
(Japan), received by Nobuo
Takeuchi of JAXA



“Jerome Lederer – Space Safety Pioneer Award”

- ✓ A means for IAASS to honour professionals who made outstanding contribution or improvements to Space Safety
- ✓ Named in honour of J. Lederer (1902-2004), father of aviation safety who became Director of the NASA Office of Manned Spaceflight Safety following the tragic Apollo 1 fire



**IAASS J. Lederer Award Winner 2010:
Dr. John Livingston (USA)**



**IAASS J. Lederer Award Winner 2011:
Bryan O' Connor (USA)**

The Sixth IAASS Conference

The Sixth IAASS Conference “*Space Safety Is Not An Option*” will be hosted by the *McGill University of Montreal*, Canada, in the period 20-22 May 2013

