“The Global Space Alliance”

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Purpose of Presentation

- To introduce a new space-related alliance that is being established to promote new levels of international cooperation and collaboration. The first objective is to coordinate a Global Space Alliance Cyber Congress that will take place via a series of global webinars in March and April of 2021.
- The hope is that the Moon Village Association will join this new alliance and perhaps take a lead role in developing one of the GSA Congress webinars. This would involve organizing an international panel of expertise on the future of exploration and creation of a permanent international settlement on the Moon.

The Initial Concept

- To establish a global alliance of space-related organizations worldwide to promote and enable international collaboration on new space ventures of all types, including missions to the Moon.
- Various stages of planning since 2016, when a presentation was made to the U.N. COPUOS Technical Subcommittee under the banner of an “International Lunar Decade” (envisioned to run from 2020 to 2030). The goal was to spur a revival of international space cooperation in new space applications, space sciences, and space exploration in celebration of the 50th anniversary of the Apollo Moon landing in July 1969.
- Although this initiative was not launched in time to engage with the Apollo Moon Landing anniversary celebrations, it is now being implemented through cooperative agreements and MOUs with various space organizations.

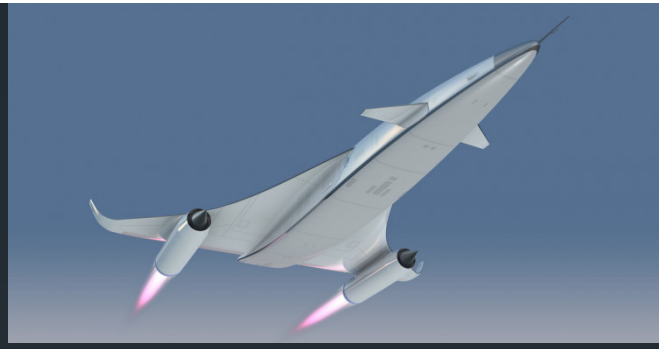
Re-launch as the Global Space Alliance

- This multinational space initiative is now being promoted as the Global Space Alliance, with the goal of engaging not only major space-faring nations (and their space agencies), but also multinational space organizations, entrepreneurial/private space enterprise, educational programs, and not-for-profit organizations.
- It is seeking to reach out to both space-faring and non-space faring nations, as well as multiple organizations that are members of the International Astronautical Federation, participants in COSPAR, and groups referenced in the original proposal to the COPUOS Technical Subcommittee.
- Several organizations currently engaged: the Hawaii Space Industry Innovation Program (HiSpace), McGill University-IASL, the International Association for the Advancement of Space Safety, and the International Space University.

Global Space Alliance Congress

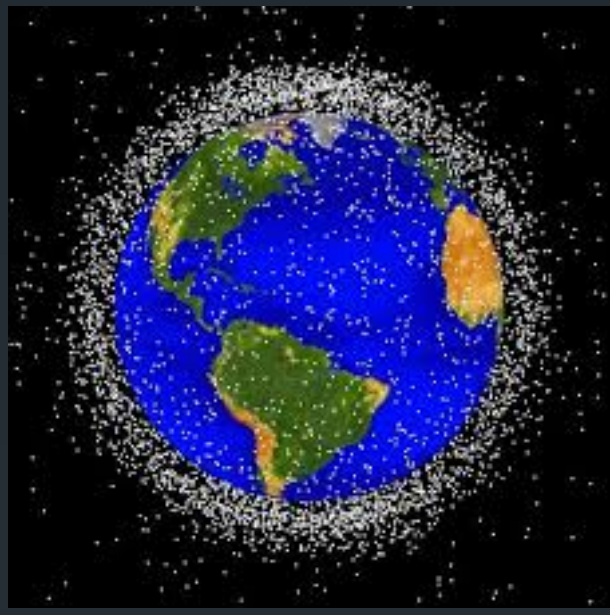
- The goal is to organize a series of 3-hour Webinars from Mid-March to Mid-April 2021 on a variety of topics in partnership with initial participants in the GSR.
- These sessions will be designed to engage participation from space professionals in the Americas, Europe, the Middle East, Africa, and Asia.
- Topics for the webinars associated with the Congress may include: fully reusable launch systems; space safety; orbital space debris and space safety; space tourism; space financing, institutional organization, and legal arrangements to support new international space efforts; sustainable off-world space settlements; space training and education; cosmic hazards and planetary defense; sustainability; and future GSA activities/ projects.
- The Congress will also consider resolutions on future GSA goals, objectives, and organizational arrangements.

Space Safety Issues



- Safety in Manned Space Flight and Space Habitats.
- Public Safety (during launches, re-entry, commercial space flights, hypersonic transport).
- Environmental Protection and Sustainability (space debris, atmospheric and ground pollution, nuclear/radiation protection).
- Artificial Gravity / Green Environment in Next-Gen Space Habitats.
- Ground Personnel Protection & Aborted Launch.
- Space Situational Awareness / Space Traffic Control / On-Orbit Services.
- Standards, Regulations, and Legal Issues.
- Cosmic Hazards and Planetary Defense.

Orbital Space Debris

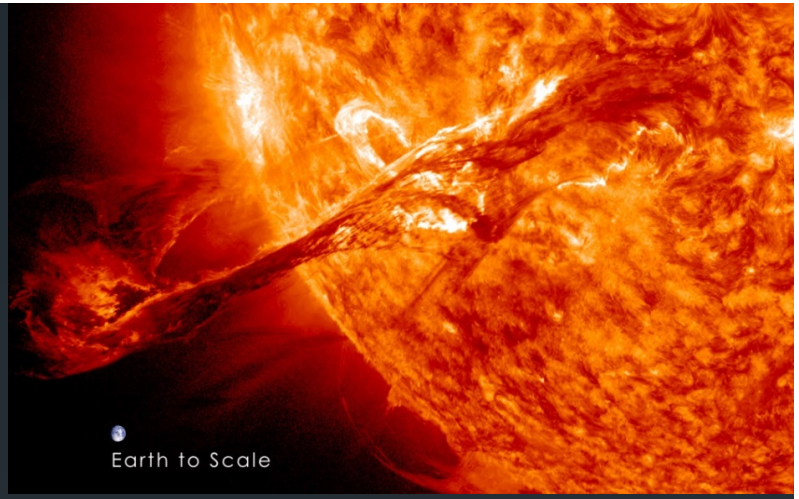


- Space Situational Awareness.
- Active Debris Removal.
- Space Insurance and Risk Assessment.
- Liability Convention & Legal Constraints.
- Top 50 Debris Risks for Priority Removal.
- Space Debris Reuse for Space Infrastructure Construction.
- On-Orbit Servicing.
- Standards for Rendezvous and Proximity Operations.
- Inter-Agency Debris Committee (IADC) and UN COPUOS Debris Mitigation Procedures.
- National vs. Commercial vs. International Roles.
- Concerns about New Large Scale LEO Constellations.

New Institutional, Legal, and Financial Arrangements for Space Initiatives

- New Private-Public Partnerships.
- International Consortia Definitions of different types and forms of space objects & resource extraction.
- Temporary space activities, longer term projects, and permanent settlements?
- Sustainability provisions and concerns related to Outer Space Treaty and Moon Agreement.

Cosmic Hazards & Planetary Defense



- Coronal mass ejections.
- Potentially hazardous asteroids.
- Comets and how to defend against them.
- Anti-matter / Super-Nova
- Planetary Defense Systems and Solar Shields.

Space & Global Sustainability

- A Global Sustainability Treaty and related space applications.
- Remote Sensing and Global Pollution Monitoring.
- RF Monitoring from Space and environmental applications.
- Space Systems, ocean acidity and warming, and threats to alga & plankton as oxygen producers and ‘carbon sinks’.
- Space systems for enforcement of global pollution regulations and to address key sustainability issues.

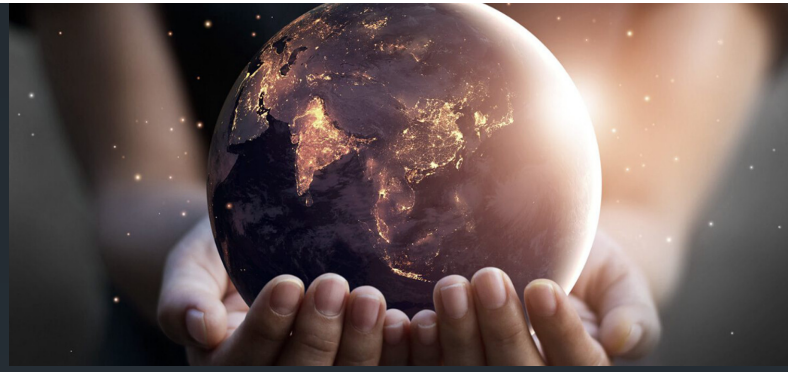
Lunar & Off World Settlements

- On the Moon, on Mars or in Gerard O'Neill Cylinders?
- Ethics of expanding civilization into outer space.
- What technologies are needed to create sustainable settlements?
- How big of a space colony could be sustainable, and where?
- Could biological 'seeds' grow livable structures in space?
- Will settlements be independent of Earth, and how will they be governed and viably operated?

Space Education and Training

- Why all countries need a space agency to promote student education and training.
- All countries need space tools to monitor global pollution, control climate change trends, and enable weather forecasting.
- Space is key to achieving the United Nation's seventeen Sustainable Development Goals for 2030.
- New Tele-education and Tele-health systems can aid the Global South.
- Space partnerships can begin with education and training.

The Future of GSA?



- What are its longer term goals?
- Is it more than a form and incubator of ideas?
- Who will be its coalition members in five years?
- Is encouragement of international collaboration in space a sufficient reason for GSA to create a global space coalition?
- Will its series of webinars held in 2021 be continued in 2022?
- Is there a true role for lesser developed and non-space faring nations?
- How can GSA best be organized? Should it just be an organic coalition of interested space entities, or be more inclusive?