

## **IAA Study Group Status Report**

**Responsible Commission:** IAA commission 3 on Space technology and System development.

**Study Number and Title:** SG3.23, “Human Space Technology Pilot Projects with Developing Countries”

**Short Study Description:** At the UN/China Workshop on Human Space Technology held in China, in September 2013, organized by UN Human Space Technology Initiative, CMSA and IAA, more than 31 different countries and regions around the world gathered. The participants defined several recommendations on how to foster the involvement of developing countries in Human Space Technology and this Study Group [SG 3.23] is fulfilling one of the recommendations.

The main goal of this Study Group is to define Pilot projects, with space developing countries, making use of synergies between Human Space Technologies and Sustainable Development activities. For this SG, the space developing countries considered are those having space programs and need not be human spaceflight activities.

The Pilot projects will make use of existing ground and space infrastructures in space fairing countries. The aim is to support scientific and economic growth in space developing countries while getting them involved in Human Space Technologies. Pilot projects shall include not only experiments to be carried out (on ground or in space) or capacity building activities but also implementation of the results in space developing countries activities.

The Study Group will have close interaction with the Human Space Technology Initiative of the United Nations Office for Outer Space in order to insure complementarity of the proposed activities. At the moment discussion are on-going to have an agreement for Call for Proposals issued jointly by IAA and UNOOSA.

### **Progress in past six months:**

- Study group had periodic teleconferences through Skype
- Members : Total 27 members (including co-chairs and secretary) from 10 countries, see Annex 1
- Prepared a draft call for proposal on Pilot projects with space developing countries and was presented in the IAA symposium at Costa Rica. The draft call was circulated to members and feedback received. Final call for proposal will be submitted to IAA for approval together with the proposed agreement IAA/UNOOSA

- The following three areas are addressed in the first call for proposal.
  - Opportunities for students in HSF subjects, hosted by China
  - Scientific microgravity experiment in aircraft parabolic flight - Carrying out Parabolic flights in special aircrafts that will simulate microgravity condition for 20-30 seconds and do experiments during flight – Hosted by CNES, France
  - Opportunities for students in the Characterization of Environmental Control and Life Support System (ECLSS) Modules using Crew Cabin Environment Simulator – hosted by India
  - The Pilot projects to be proposed should be related to the following areas:
    1. Human Spaceflight Technology
      - Simulators for verification, validation and crew training
      - Crew health monitoring systems
      - Crew training and related facilities
      - Crew module systems
      - Crew escape system
      - Environmental control and life support system
      - Flight suit/space suit
      - Human rating of launch vehicle
    2. Technology derived from the human space technology, which are beneficial to people on earth and to the social and economic development of space developing countries.
    3. Capacity Building (i.e. public education)
    4. Crew physiological and psychological related
    5. Innovative propulsion systems for interplanetary missions
    6. Integrated vehicle health monitoring system
    7. Space medicine and bioastronautics
    8. Sharing of facilities

**Website Study Information update:**

- There are 34 members in the group now and list is available in website.
- Agreement IAA/UNOOSA by April 2017
- Release of the Joint Call/Summer 2017
- First Pilot Projects selected by early 2018
- Conclusion of the SG, March 2018

**Issues requiring resolution?:**

- Agreement IAA/UNOOSA to be submitted to IAA for approval

**Product Deliveries on Schedule?**

- Yes, since it took longer than expected to finalize the Call and identify the partnership with UNOOSA

**Study Team Member Changes?**

- None

**Name of person providing Study Group Status (Study Group Chair or Co-Chair):**

Dr Giuseppe Reibaldi (Co-chair, Italy) and Prof.Fengyuan Zhuang (Co-chair, China),  
Secretary :Dr. Unnikrishnan Nair S. (India)

**Status Report Date: 3 March 2017**

Annex 1- List of SG Member

No	Name		Country	Email
1.	Giuseppe Reibaldi	Co-Chair	Italy	giuseppe.reibaldi@gmail.com
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