

IAA Study Group Status Report

Responsible Commission: 3

**Study Number and Title: SG3.16 - Global Human Mars System Missions
Exploration – Goals, Requirements and Technologies**

Short Study Description (repeat from Study Group Proposal):

Human Missions to Mars have been studied individually by several Space Agencies over the past decades. However, a cooperative Human Mars mission framework – including, but not limited to requirements and technologies, is missing.

ISECG is not dealing with the above subject since it is limiting the coordination of the activities to the Mars Sample Return Mission.

Overall Goal:

Identify, assess and synthesize a global set of goals with its related criteria requirements for future human exploration of the Mars system and establish technology opportunities and roadmaps in the context of promising cooperative exploration scenarios. The Study should aim to identify means to minimize the risks at global level

Intermediate Goals:

The study will consider, but not limited to, the following aspects:

- 1) Mission rationale definition goals with its related criteria: – Political, Scientific, Economical, Cultural
- 2) Questions to be answered with the relevant time lining
- 3) Global set of requirements
- 4) Enabling Technologies required with the required time lining
- 5) Human Factors aspects
- 6) Mission Architecture Options
- 7) Sustainability
- 8) Outreach aspects
- 9) Cooperative Framework
- 10) Decision Roadmap
- 11) Recommendations
- 12) Conclusions

Progress in past six months:

A new version of the various chapters was asked to all the responsible of the sections.

All new versions were received, except for

8:: The ground sector.

The drafts of the various sections were integrated, and a draft document was produced. The draft main document contains 83 pages, plus another 45 pages of bibliography and appendices.

The main report is thus on schedule.

.Website Study Information up to date? (Study Group Membership, Study Plan and Schedule):

Chair: Giancarlo Genta

Co-Chairs: Alain Dupas
Hideto Yamazaki

Secretary: Jean-Marc Salotti

Study group **Membership** (in alphabetic order):

Mauro Augelli (CNES, France)
Nicolas Bérend (ONERA, France)
Giovanni Bignami (COSPAR)
Claudio Bruno (University of Rome, Italy)
John B. Charles (NASA, USA)
Lin Chen (Lockheed Martin, USA)
Elisa Cliquet Moreno (CNES, France)
Gabriel G. De la Torre (Univ. of Cadiz, Spain)
Nadeem Ghafoor (MDA, Canada)
Alexey Grushevski (Keldish Institute, Russia)
Richard. Heidmann (Planet Mars Ass., France)
Bernhard Hufenbach (ESA, Europe)
Les Johnson (NASA, USA)
Nick Kanas (U. of California, S. Francisco, USA)
David Kendall (Canadian Space Agency, Canada)
Anatoly Koroteev (Keldish Research Center, Russia)
Julien-Alexandre Lamamy (Orb. Sc. Corp. USA)
John Logsdon (George Washington Univ., USA)
Kohtaro Matsumoto (JAXA, Japan)
Chris McKay (NASA, USA)
Susan McKenna-Lawlor (Ireland Nat. U., Ireland)
Ernst Messerschmid (Stuttgart U., Germany)
Gian Gabriele Ori (Univ. G. d'Annunzio, Italy)
Natalia Nikolaeva (Skobeltsyn Institute of Nuclear Physics, Russia)
Michael Panasyuk (Skobeltsyn Institute of Nuclear Physics, Russia)
Maria Antonietta Perino (TASI, Italy)
Viacheslav Petukhov (Moscow Aviation Institute, Russia)
Yury Razoumny (Russia)
Pascal Renten (University of Stuttgart, Germany)
Stephen C. Ringler (SGAC, USA)
Andreas Rittweger (Astrium, France)
Christian Sallaberger (MDA, Canada)
Klaus Schilling (Univ. of Würzburg, Germany)
Alexander Semenkin (Keldish Research Center, Russia)
Andrea Sommariva (Italy – China)
Carol R. Stoker (NASA, USA)
Lin Wei (China)

Luo Wencheng (China)
Alan Wilhite (Georgia Tech, USA)
Cao Xiaohui (China)
Lu Yu (China)
Tatiana Zenchenko (Space Research Institute, Academy of Sciences, Russia)

New members have been added, see list below.

- Study plan: see previous section
- Schedule:
 1. A paper will be presented at the 65th IAC, Toronto, Sept. 2014
 2. The Study will be completed for the 65th IAC in Sept. 2015

Issues requiring resolution? (recommend approach):

None

Product Deliveries on Schedule? (If modified explain rationale):

YES

Study Team Member Changes? (List any Study Team Members that you wish to discontinue, and provide names plus contact coordinates of any Members you wish to add on the second page of this Study Update form.) Note: Complete contact information including email, tel. and fax must be provided for all additions. Only Members with complete contact information will be listed and receive formal appointment letters from the IAA Secretariat.)

See below

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

Giancarlo Genta
Study Group Chair

Status Report Date:

4 Sept. 2014

Study Team Membership Changes

Effectivity Date: 20 Feb. 2014

Discontinue:

Name: Andrew Aldrin

Name: Andrey A. Kuricyn

Add:

Name: Andrea Sommariva