IAA Study Group Status Report

Responsible Commission: Comission 3. Space Technology & System Development

Study Number and Title: SG 3.22. Next-Generation Space System Development Basing on On-Orbit-Servicing Concept

Short Study Description (repeat from Study Group Proposal):
Over the last years many organizations in different countries have been involved in development of various technical aspects of on-orbit satellite servicing, which to a great extent predetermines the characteristics of next-generation space systems. The problem of developing next-generation space systems basing on on-orbit servicing concept is considered as technical challenge in two main directions: making serviced satellites and space systems suitable for servicing; developing servicing satellites and space systems for the performance of the on-orbit-servicing operations. Implementation of the first direction includes a wide range of developments: unified detachable and installable satellite blocks and modules, maximal complexation of missions on-board a single satellite, internationally standardized hardware and connectors, providing the docking with the serviced satellite, selection of the satellite's period of use with regard to servicing, etc. Implementation of the second direction varies from the development of servicing methods and servicing systems to the gradual development of the space complexes for providing on-board-servicing operations. The overall goal of the study is to unite the efforts of the specialists, which have been undertaken in different countries and organizations, for discovering the most effective approaches to solving the problem.

Progress in past six months:
The current materials
projects The table of contents of the Study was developed and discussed at the SG meeting in Toronto as well as was précised by the SG members during the past six months. The main notions and determinations in the problem of on-orbit technical servicing were created and listed. The goals and benefits of on-orbit technical servicing implementation were formulated. The chapters of the contents were partly distributed between the several SG members. The SG Dropbox was created and the current materials of national and international projects concerning different aspects of on-orbit servicing were collected and downloaded in the Dropbox to be used by the SG members.

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

The following documents are included in the SG website information:
List of SG members
Study Report Content
Study Report Notions and Definitions

Issues requiring resolution? (recommend approach):

1. Overall discussion of the Study Group Content and Study Report Notions and Definitions between SG members with necessary changes and corrections.
2. Distribution of all the chapters of the Study Group Content between the SG members.

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

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.)

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

Yury Razoumny, SG Chair
Brij N. Agrawal, SG Co-Chair
Tetsuo Yasaka, SG Co-Chair (invited)
Giuseppe Reibaldi, SG Co-Chair (invited)

Status Report Date:

Study Team Membership Changes

Effectivity Date: March 16, 2015

Add (invited):
David L. Akin, University of Maryland, USA,
Dan King, MDA, Canada,
Greg Scott, Naval Research Laboratory, USA,
Marco Caporicci, ESA,
Maxim Zapletin, Moscow State University,
Giancarlo Genta, Italy,
Christophe Bonnal, CNES, France,
Christophe Paccolat, Ecole Polytechnique, Switzerland,
Wang Xiaowei, China Academy of Launch Vehicle Technology (CALT), China,