

## 1 PURPOSE

The purpose of the Space Systems Working Group (SSWG) is to expand the body of knowledge of systems engineering as it is applied to space systems. Specifically, the purpose of the SSWG is to:

- Promote the use of systems engineering principles, techniques, and practices in government, academic, and private industry organizations which are identified with space applications
- Provide a forum in the professional networking of INCOSE that is pertinent to professionals in the space systems community
- Support the INCOSE Model Based System Engineering (MBSE) Initiative by developing an MBSE Systems Modeling Language (SysML) Reference Model of a CubeSat

## 2 GOAL

An overarching goal for the SSWG is to increase the quality and scope of the technical and professional information available to its members and to enhance the interchange of that information between its members.

A specific goal for the SSWG is to develop a CubeSat Reference Model that is distributed to and adapted by CubeSat projects and that covers an entire CubeSat project life cycle from concept to retirement.

## 3 SCOPE

The SSWG will address the application of systems engineering to space systems in government, industry, and academia.

## 4 SKILLS AND EXPERTISE REQUIRED

The only skill requirements for participation will be a familiarity with the discipline of systems engineering in the domain of space systems.

## 5 MEMBERS, ROLES AND RESPONSIBILITIES

The following offices are held within the SSWG:

- SSWG Chair
  - Responsibilities
    - Direct SSWG meetings
    - Coordinate logistics for such meetings
    - Ensure meeting minutes, agendas, and communications are prepared and distributed
    - Establish the annual goals for the SSWG
    - Prepare committee reports as required
    - Interface with the INCOSE Technical Operations and other working groups
    - Support coordination of the SSWG activities
    - Appoint ad-hoc positions as required with the consent of the membership

- SSWG Co-Chair
  - Responsibilities
    - The responsibilities of the SSWG deputy chair are assigned by the chairperson
    - At meetings where the Chair is absent, the Co-Chair shall assume meeting responsibilities

## **6 OUTCOMES (PRODUCTS/SERVICES)**

The overarching service to be provided by the SSWG will be to support the dissemination of information between its members. The tempo and topics of contribution will be determined by the level of participation by the community and availability of contributed content.

A specific product provided by the SSWG will be the MBSE SysML CubeSat Reference Model.

## **7 APPROACH**

The SSWG will accomplish its purpose through development and sponsoring of activities within INCOSE during its symposia, workshops, and virtual collaboration forums.

SSWG meetings will take place at the International Workshop (IW) and at the International Symposium (IS). These will be the focal points for initiating new activities and following up on the status of those in progress. Virtual collaboration will be the main mode of interaction outside these meetings.

The SSWG will engage in community outreach to other systems engineering groups within INCOSE and other professions in space systems.

The SSWG will have a weekly virtual meeting to support development of the CubeSat Reference Model and the production of conference papers and presentation.

## **8 MEASURES OF SUCCESS**

A belief of the Working Group is that “you get out what you put in” and the measures of success should reflect this. Further, participation is linked to perceived value. Our measures of success based on these principles will be:

- Membership
- Attendance at the annual meetings
- Development of the CubeSat Reference Model and the production of conference papers and presentation

## **9 RESOURCE REQUIREMENTS**

Minimal resources will be required. These include teleconferencing service, INCOSE Connect support, and meeting facilities at the IW and IS.

## **10 DURATION**

This Charter will remain in effect until the next election of SSWG Chair.

## 11 SIGNATURES

Enter the signature block of the submitter

Date

1<sup>st</sup> Level of Approval

Date

Technical Director, INCOSE

2<sup>nd</sup> Level of Approval

Date

Chairman, INCOSE Board of Directors

(Note this will be added by the INCOSE Technical Director when deemed appropriate.)

## Revision History

<u>Date</u>	<u>Revision</u>	<u>Description</u>	<u>Author</u>
3/14/11	1.0	Initial Draft.	B. Cole, S. Jenkins
3/31/11	1.1	Revised with input from SSWG mailing list.	B. Cole
6/12/11	1.15	Revised w.r.t. Jean-Claude Roussel comments	B. Cole
5/26/15	2.0	Sections 1, 2, 6,7, and 8 - Added MBSE Initiative and CubeSat Reference Model. Section 5 – Removed naming a specific SSWG chair and co-chair. They are listed on SSWG web site. All sections – Reduced to the essentials.	D. Kaslow