



# INCOSE Motor Sports Working Group Charter

## 1 PURPOSE

In an increasingly complex and technology-shocked world it becomes essential to master systemics and appropriate systems practices involving science, multiple technologies, engineering and math. Although copious course material exists for each of the respective disciplines few learning environments make learning relevant, fun, and visceral as well as intellectual. The MSWG intends to describe and demonstrate that the excitement and enthusiasm inherent in motor sports will accelerate learning systemics that, in turn, will accelerate learning in science, technology, engineering, math (SySTEM) and related subjects.

## 2 GOAL

Infuse motor sports and systemics into classrooms at the Master, Bachelor and pre-college levels and measure the impact on participant learning in SySTEM and other subjects.

## 3 SCOPE

This effort will encompass STEM, systemics and a variety of motor sports and will serve middle school through graduate school and beyond. This effort will identify and acquire/recruit motor sports artifacts and personalities that have a positive effect on the pace of learning and duration of retention. The learning environment will transcend the classroom to include field trips to facilities and events. In addition to actual motor sports we will utilize simulations and games, some student-developed. We will work with teachers in public schools and private schools and encourage INCOSE Chapters world wide to sponsor and staff off-campus sessions.

In addition to motivating learning we will help students appreciate that mastery of SySTEM disciplines is critical to competitiveness in motor sports. Our scope includes helping them transfer this principle to their own lives and engage with INCOSE.

## 4 SKILLS AND EXPERTISE REQUIRED

Members interested in formulating, conducting and reporting on action research projects.  
Practicing educators, especially in STEM and curriculum mapping.  
Competencies in systemics and systems praxis.  
Involvement in or appreciation of motor sports.

## 5 MEMBERS, ROLES AND RESPONSIBILITIES

Lead: Jack Ring

- Responsibilities: Planning and motivating WG achievements.

Co-Lead(s): William Mackey

- Responsibilities: a) Status reporting to the Assistant Director for Knowledge, b) Act in the absence of the lead.

Board Sponsor(s)/Champion(s): (If applicable) Timothy Ferris.

- Responsibilities: Please see Tech Ops plan.



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Members: See Forum Roster at [groups.google.com/group/mswg-incose](https://groups.google.com/group/mswg-incose)

### 6 OUTCOMES (PRODUCTS/SERVICES)

- 2010: A syllabus for infusing motor sports into systemics education and motivating student-defined linkages to science, engineering, and math and other subject matter.
- 2011: A list of artifacts that bring motor sports into the classroom, e.g., models, videos, images, simulators, case studies.
- 2011: A list of personalities and hosts who are willing and able to bring motor sports into the learning environment.
- 2012: Outreach volunteers to demonstrate learning environments to teachers and other educators.
- 2012 – 2015: Case studies of action research. Middle school, high school, Bachelor level, Master level.
- 2012 – 2015: Student-produced models and simulations demonstrating linkages between systemics and STEM.
- 2013: Awareness by educators of the leverage they can gain from motor sports.

### 7 APPROACH

- Use [groups.google.com/group/mswg-incose](https://groups.google.com/group/mswg-incose) to include members who are not yet INCOSE members.
- Conduct monthly teleconferences.
- Conduct meetings at IW.
- Develop a list of WG projects, ideally linked to one or more INCOSE chapters.
- Papers, panels and tutorials at INCOSE symposia and other conferences.
- Evangelize SE to the motor sports industry.
- Evangelize MSWG to INCOSE Chapters.
- Submit papers to appropriate journals.

### 8 MEASURES OF SUCCESS

- Intensity of participation by MSWG members.
- Variety of participants.
- Effect on INCOSE members.
- Effect on educators, world-wide.

### 9 RESOURCE REQUIREMENTS

- Infrastructure for monthly telemeetings.
- Ability to poll INCOSE members twice yearly.
- \$4,000 annually for stipends (two each \$2,000 stipends for guest speakers at IW and IS sessions).

### 10 DURATION

Complete by 2015



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## 11 SIGNATURES

Enter the signature block of the submitter

Date

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

Technical Director, INCOSE

Date August 2011

**2<sup>nd</sup> Level of Approval** (Note this will be added by the INCOSE Technical Director when deemed appropriate.)

Chairman, INCOSE Board of Directors

Date

## Revision History

<u>Date</u>	<u>Revision</u>	<u>Description</u>	<u>Author</u>
	1.0	Initial Draft.	