

1 PURPOSE

The Life Cycle Management Working Group's (LCMWG) purpose is to expand the body of knowledge of Systems Engineering (SE) as it is and should be applied to acquisition and system life cycles. Specifically, the LCMWG is formed to:

- Promote the use of SE principles, techniques, processes, and tools in the wide range of activities related to life cycle management.
- Share SE best practices as they relate to life cycle management.
- Link SE organizations across international boundaries to improve life cycle processes and the management of the life cycle.
- Encourage research into the application of SE throughout a system life cycle.

2 GOAL

- define the term "life cycle" as it applies to the overall system, and to subordinate life cycles (e.g. technology, safety, regulatory)
- develop life cycle frameworks for system components and processes such as technology, contracting, safety, environmental, and others.
- research life cycle management concepts, processes, and practices to improve system satisfaction of stakeholder needs
- integrate subordinate life cycles into a single life cycle with several stages, processes, activities and products which can be modeled within the life cycle

The LCMWG also addresses the reciprocal relationship associated with how life cycle stages can impact the practice and profession of SE in different application domains or from other viewpoints.

3 SCOPE

Relationship to the areas of interest of any other Working Groups, and any exclusions or boundaries:

The LCMWG is a source of information for other Working Groups to consider in developing their own agendas, projects and plans. It is seen as a complementary rather than an overlapping Working Group.

For example, the purpose of the Space Systems Working Group is to expand the application of SE to space systems. The LCMWG would support this effort by identifying SE best practices that enhance a space program's ability to tailor systems engineering processes and practices



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to each space system lifecycle phase, as well as integrate subordinate life cycles (such as the contracting life cycle).¹

How establishing the LCMWG addresses specific needs of INCOSE stakeholders and stakeholders outside of INCOSE: Understanding how SE can be applied to managing the system life cycle (including viewing the system lifecycle in a more rigorous and integrated way) may impact the practice of SE will help stakeholders both inside and outside of INCOSE understand how to use the life cycle framework on a broad basis.

Potential LCMWG Technical Projects: The Life Cycle Management Working Group will include Technical Projects focusing on specific life cycle management issues. Technical Projects will focus on both the application of systems engineering in each component life cycle (i.e., technology, regulatory, safety, environment) as well as on how these subordinate life cycles integrate with the overall product life cycle. These Technical Projects may include, but are not limited to:

- Acquisition life cycle management
- Technology Life Cycle Management
- Regulatory (legal) Life Cycle Management
- Process adaptation across life cycle stages
- Knowledge management over a life cycle
- Life cycle key decisions (are they all at the end points of stages?)

Value basis of the Working Group:

LCMWG Activities, Projects, and Products	Value to INCOSE Members and Other Stakeholders
Provide formal definitions of “system life cycle,” “subordinate system life cycles” and other terms	Enhances communication between technology stakeholders while providing a new way to view the life cycle of a system
Develop best practices for applying SE to life cycle management	Improves the application of the life cycle framework in product and service development, improving satisfaction of stakeholder needs

¹ The “system lifecycle” is a framework that encompasses all processes and activities relating to a system intended to enhance meeting the stakeholders’ needs in an orderly and efficient manner. A system’s lifecycle also includes the lifecycles of its components (e.g., technology) and processes (e.g., knowledge management).

LCMWG Activities, Projects, and Products	Value to INCOSE Members and Other Stakeholders
Serve as a clearinghouse for information on the application of SE to life cycle management issues	Reduces redundancy in life cycle management-related SE activities inside and outside INCOSE (including other INCOSE working groups)
Provide an active outreach program within INCOSE, with industry, government and education, and with other professional engineering organizations	Increases collaboration and cooperation between all SE stakeholders
Identify the SE aspects of late-phase life cycle issues and impacts on legacy systems	Improve the understanding of post-development system issues and how SE can affect their impact
Identify, develop, and provide training materials on life cycle management issues, recommended approaches, trends, products, and services for INCOSE-approved accreditation	Improve the general practice of SE with respect to life cycle management issues

4 SKILLS AND EXPERTISE REQUIRED

Define the skills and expertise that will be required for success. Identify any gaps and define how they will be acquired, denoting if they will need to be acquired from outside INCOSE (See Resources Required below).

TBD

5 MEMBERS, ROLES AND RESPONSIBILITIES

List the names of members and briefly describe their responsibilities.

- Lead: Jan de Liefde
 - o Chair bi-monthly LCMWG meetings
 - o Attend monthly Technical Operations telecom
 - o Maintain LCMWG membership roster
 - o Track actions
 - o Direct and/or assist LCMWG projects (e.g. The lead shall be responsible for status reporting to the Assistant Director for Knowledge.)
- Co-Lead(s): Katri Hakola, Barry Plant, Raffaele Fiengo, Duane McCollum
 - o Assist Chair when necessary
 - o Direct and/or assist LCMWG projects (e.g. The co-lead shall be responsible to act in the absence of the lead.)

- Track actions
- Board Sponsor(s)/Champion(s): (If applicable) <name>
 - Responsibilities
 - (e.g. The Board sponsor shall be responsible for resource advocacy and status reporting to the INCOSE BOD and external stakeholders.)
- Members <individual member names may be listed here and/or listed in individual Technical Project Plan(s) (TPP) that align to this WG/Initiative.>

6 OUTCOMES (PRODUCTS/SERVICES)

If known, list the intended deliverables (products/services) that will be produced by those participating in this WG/Initiative. Details applicable to deliverables shall be defined in separate Technical Project Plans (TPP's). TPP's shall be developed, submitted and tracked as defined by the applicable Technical Operations procedure.

TBD

7 APPROACH

Define the general approach that will guide this WG/Initiative including:

- Meeting frequency of the entire WG/Initiative team
- Communications, if not previously covered under roles & responsibilities above
- Challenges
- Assumptions
- Major phases or milestones, if applicable

8 MEASURES OF SUCCESS

- Number and currency of LCMWG products
- Frequency of use of LCMWG products
- Approval of an INCOSE-approved class on emerging technology
- LCMWG membership growth and level of participation
- Interest from industry, government, and education as expressed in number of contacts
- Number of papers, panels, tutorials on LCMWG topics
- Number of cooperative efforts with other Working Groups to use LCMWG expertise

9 RESOURCE REQUIREMENTS

- telecoms,
- Microsoft LiveMeeting

10 DURATION

Define the duration/end date (if applicable). If no end date is planned then state that this Charter will remain in effect until rescinded by the signatory.

11 SIGNATURES

Enter the signature block of the submitter

Date

1st Level of Approval



Date

August 23, 2011

Technical Director, INCOSE

2nd 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>
14-11-2010	1.0	Initial Draft.	Jan de Liefde