

## 1 PURPOSE

The aim of the INCOSE Competency Working Group is to improve the practice of Systems Engineering through further development and adoption of competency management approaches.

## 2 GOAL

The specific goal(s) for the Competency WG include:

1. Evolve to a globally accepted and marketed standard competency framework, tailorable to the needs of the customer organizations.
  - a. Evolution of the current INCOSE SE Competency Framework available to INCOSE members,
    - i. Identified products/services of business benefit to INCOSE
  - b. Industry-academia empirical research projects in the area of better understanding systems engineering competency.
  - c. Established and exploited (initial) SE Competency set for Soft Skills
  - d. Clear and agreed understanding of how SE and PM Competencies relate, and
  - e. Trainable framework in support of training providers
  - f. Joint and individual paper and article contributions on Competency published
  - g. Products/services of business benefit to INCOSE (positive revenue)
  - h. Meaningful and sensible to people who are not systems engineers;
2. Create a globally accepted and marketed standard assessment instrument/tool, tailorable to the needs of the customer organizations, once validated, may be used for selection, filtering, and screening of candidates for SE job positions and placing the 'right person to the right job'. (Stretch goal for future.)
  - a. Trainable framework in support of training providers
  - b. Joint and individual paper and article contributions on Competency published
  - c. Products/services of business benefit to INCOSE (positive revenue)

## 3 SCOPE

The following is considered in scope for the Competency WG.

- Development of practical solutions for practicing systems engineers and organizations
- A Systems approach to Systems Engineering
- As broad a membership as possible - we can all learn from each other
- Collaboration with other WG's/organizations
- Determination of competency fit with other functions (PM/Finance, etc.)
- Produce papers (Collaborative WG Papers/Individuals)
- Global competency model refinement based on the INCOSE SE Competencies Framework 2010-0205 & Guide to Competency Evaluation - Framework Annex A 2010-0205
- Use cases to generate roles
- Use currently available works (papers, books, frameworks, BKCASE, etc) as inputs
- Define Soft skills (cognitive, behavioral), intuitiveness
- Define PM/SE competency intersections
- INCOSE Connect site development

## 4 SKILLS AND EXPERTISE REQUIRED

Skill and expertise mix suggested:

- Soft skills knowledge
- Project management
- Behavioral psychology
- Editing
- Competency authors
- Systems thinking
- Systems engineering
- Strategic thinking
- Funding elicitation
- Measurement
- Promoters
- Commercial, Government, and academic global perspectives
- Visionaries
- Training developers and practitioners
- MBSE
- Talent management/development
- Training/Education
- Human resources domain knowledge

## 5 MEMBERS, ROLES AND RESPONSIBILITIES

List the names of members and briefly describe their responsibilities.

- Chair: Eileen Arnold

The Chair shall be responsible for

- Organizing the sub-teams,
- Status reporting to the Assistant Director/May be delegated
- Facilitation of discussions and work of the members
- Minutes generation and communication
- Setting up meeting times and rooms
- Delegation as desired

- Co-Chair: Rashmi Jain

The Co-Chair shall be responsible for

- Acting in the absence of the Chair
- Supporting the facilitation, discussion and work of the members
- Actively supporting the Chair

It is expected the Co-Chair becomes the Chair

- Board Sponsor(s)/Champion(s): Jean-Claude Roussel
  - Responsibilities
    - The Board sponsor shall be responsible for resource advocacy and status reporting to the INCOSE BOD and external stakeholders.
- Members:
  - Richard Beasley
  - Alan Harding
  - Seth Schapiro
  - Tom Humpton
  - J.D. Baker
  - Don Boyer
  - Joe Kasser
  - Heidi Hahn
  - Richard Beasley
  - Ian Presland
  - Heidi Davidz
  - Moti Frank
  - Hillary Sillitto
  - Kevin Forsberg
  - Rogier Uges
  - Andrew Daw
  - Rashmi Jain
  - Eileen Arnold

## 6 OUTCOMES (PRODUCTS/SERVICES)

Enhanced, individual and organization-usable INCOSE Competencies Framework based on demand with eventual assessment instrument.

## 7 APPROACH

Meeting frequency of the entire WG:

- IS, IW face-to-face
- Email, targeted telecons, INCOSE Connect CWG share site

Decision making

- Consensus with respect
- Chairs will make a decision if team unable to move forward

Norms or ground rules

- All members must have an opportunity to be heard
- All members contribute – products/discussion
- Diversity of views – stimulating
- Discover commonalities
- Discover differences and embrace within constraints of moving ahead.
  - Differences may drive flexibility (ability to tailor and adapt)
- Interface with other working groups
- Milestones for completion expected
- Build on existing work
- Good enough, not perfection (iterate)
- Don't get bogged down in domain specific detail
- Strive for usable products for potential end-user stakeholders
- Although the WG has many backgrounds of expertise, bringing in experts in specific areas is critical

## 8 MEASURES OF SUCCESS (MILESTONE STATUS FOR 1<sup>ST</sup> YEAR)

Milestone	Quarter	Status	POC
Accepted Charter	Q2		Co-Chairs
Identified Stakeholders	Q1	Complete	All
Vision	Q1	Complete	All
Business Case - demand (needs)	Q3	Complete	Co-Chairs
WG Relationships - Mapping	Q1	Complete	Alan
Identify Stakeholders Requirements	Q4		Alan
Mapping of this WG work product with other INCOSE products	Q4		
Prepare a first draft of literature review on the state of art on competencies	Q4		Rashmi

## 9 RESOURCE REQUIREMENTS

Human participation (volunteers) will drive the rate at which progress is made.



# INCOSE Competency WG Charter

No funding is required at this point in time, although grants or similar may be a possibility.

Infrastructure support (telecoms, Microsoft LiveMeeting)

Resources outside of INCOSE may be solicited as needed, although not early on.

## 10 DURATION

This Charter will remain in effect until rescinded by the signatory. Milestones will change as the team forms.

## 11 SIGNATURES

Eileen Arnold and Rashmi Jain

Date 6/16/2011

### 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>
4-7-2011	1.0	Submittal for Acceptance	Eileen Arnold