INCOSE Soft-skills For Systems Engineers Working Group Charter

1 PURPOSE

The purpose for creating this working group is to organize, coordinate, and focus the efforts of individuals that are interested in this subject material. The soft-skills become increasingly important as individuals advance their careers and develop their responsibilities. Anecdotal evidence indicates that the more generalized training and material that is available in soft-skills often misses the mark for individuals with an engineering background. This working group will seek to take advantage of the opportunity available provided by the engineers within INCOSE that have developed their soft-skills. This working will leverage their knowledge and experience to create material that explains the value, purpose, and mechanics of soft-skills in terms that an engineer can understand and relate to.

2 GOAL

There are several goals for this working group, with the possibility of developing more based-on areas of interested, and levels of interest.

Goal #1 – Create a method that categorizes and organizes the soft-skills in a way best suited for engineers. This method would be documented on the INCOSE connect site for the WG. It is a distinct possibility that the folder-structure created for the WG is a part of the organization needed.

Goal #2 – Collect and define the values that are important to Systems Engineers and the INCOSE organization to ensure that they are properly included and represented in any material created. The preference is to collect this from senior INCOSE Systems Engineers, like the Fellows, or ESEPs, or CSEPs, or the INCOSE leadership. There are many options for collecting this input with the "idea in the chair" being a "Voice of the Customer" type of questionnaire. The results would be stored in the INCOSE Connect site for the WG for traceability and transparency.

Goal #3 – Collect and inventory any material that aligns with the goals and values established. Then provide a central location (aka searchable Web Page) that has links to the material. This material may be books, articles, white papers, Ted-Talk videos, etc. To start, the group will collect, review, and assess this information. Then document and publish the material accordingly. Eventually, an evaluation process with clearly established review criteria may emerge to ensure consistency. The WG would tackle that when it becomes needful.

Goal #4 – Create "usable products" related to the subject of soft-skills. These could be presentations, recordings, white papers, that can be given directly to engineers or to someone that would like to teach the material to engineers. At the submission step for this WG, this is considered the main output of the work from this group. Having some material to review and discuss by IW2020 is the goal.

Goal #5 – Collaborate with other WGs to make them aware of the material and collect their input when there is some common ground between the WGs. The desire for this WG is to treat it like an integrated part of all WGs from the start. This will present some "forming, storming, norming" challenges, but there is nothing insurmountable in the process. A high band-width of

communication, awareness, and sharing is all that is required to meet the short-term needs for this goal.

Goal #6 – Evaluate the benefits, costs, and interest in creating a method for certifying an engineer's knowledge, experience, and abilities with soft-skills. The GfSE chapter has something like this in place and provides a foundation in which to start a discussion. The timeframe for an initial status/review is to have something available for IW2020 to share.

Goal #7 – Within the first 6 months of the creation of this WG, there is a goal to have enough draft content available for goals 1-4 that presentations can be made at IW2020.

Goal #8 – After a review of the material by INCOSE members outside of the WG, the group would re-calibrate and re-set its goals. Continued learning and improvement are an important aspect of keeping current with soft-skills

Due to the amount of material available for soft-skills, this is the extent of the goals for this working group, at this point in time. There are many longer-term wishes and ideas possible. To start, the proposal is to insert some wisdom and take a "crawl, walk, run" approach to the goals. The value of getting something started is considered more important than pursuing lofty goals.

Summarize the specific goal(s) for this WG or Initiative in terms that are clear and measurable. This area may also include:
- Customer(s)/Stakeholder(s)
- Intended outcome(s)/product(s)/services(s)
- Expected completion date(s) or time-frame (e.g. short, mid or long-term)

3 SCOPE

The scope of work for this working group includes collecting, reviewing, creating, and sharing materials, concepts, and ideas related to soft-skills.

The scope of work for this working group does not include a commitment to provide training. While it is expected that members of the WG will consist of people that give presentations, tutorials, and training, during the start-up of this WG the team needs to focus on building the material over delivering the material.

4 SKILLS AND EXPERTISE REQUIRED

For this WG, experience working on soft-skills, teaching soft-skills, and/or being in a leadership/management position for an engineering team is what is required. Since this is new ground, the starting expectation is that the skills and experience required will adjust as this effort matures. Specifically, if a certification process emerges, it will be expected that the leadership members of this WG attain a certification.

Speaking, reading, and writing English is required.

5 OUTCOMES (PRODUCTS/SERVICES)

High-Level products:

1) Overview of Soft-Skills
   a. Readable Document
   b. Presentation that can be used for training
   c. Self-Assessment Exam
2) Basic Soft-Skills
   a. Readable Document
   b. Presentation that can be used for training
   c. Self-Assessment Exam
3) Intermediate Soft-Skills
   a. Readable Document
   b. Presentation that can be used for training
   c. Self-Assessment Exam
4) Advanced Soft-Skills
   a. Readable Document
   b. Presentation that can be used for training
   c. Self-Assessment Exam
5) Certification Process
   a. This is a long-term outcome that would not be tackled until there is enough substantial material to provide confidence to leadership that a certification process is workable and has value.

It is worth noting that the initial developed products will be in English. If, and when, this material is required in other language, an effort will be created at that time to address the process of supporting the material in other languages.

6 APPROACH

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

- To begin, the WG meetings will be held monthly using the INCOSE supported technologies – Global Meet and INCOSE Connect.

- Decisions will be determined by consensus of the chair and co-chairs. If any subject has strongly polarized views, the chair and co-chairs agree to solicit input from the technical director, and possible other stakeholders with a high level of interest.

- Ground rules: Respect, practice the soft-skills as part of the group ("eat your own dog food" or "drink your own champagne" are helpful metaphors), decisions are arrived at and not forced, value people and relationships over outcomes, be constructive in disagreements, listen.

- Accountability: The chair is accountable for the results of the working group, with the co-chairs available to ensure that the chair is following the established values. In the absence of the chair, a co-chair will be designated to cover the responsibility of the chair.

- Communication – Between the group: For the members of the group, communication will be captured via email. Using the INCOSE email reflector for the working group, discussion with the group members will be enabled via a GDPR compliant email.

- Challenges include language and cultural barriers and norms. Soft-skills are highly culture and language dependent. The WG will need to mindful of culture variations and ensure the material applicable across cultures is truly so. Efforts will be made to attract WG members from other countries and continents.

- Assumptions – there are no notable assumptions at this point in time.

- Major Phases or Milestones.

   Milestone 1 – Achieving "critical mass" and getting the WG started

   Milestone 2 – Completing the Charter and goals for the WG.

   Milestone 3 – A defined structure is in place on INCOSE Connect folders and document templates in place.

   Milestone 4 – Material is ready for review outside of the WG.

7 MEASURES OF SUCCESS

Define the overall measures of success for the WG/Initiative. Note that detailed measures of success for individual products/services produced will be contained in the applicable individual TPP. Examples of WG/Initiative measures of success include:
- Size of membership
- Number of enterprises involved in the project
- Number of products/services under development (as defined by individual TPP's)
- Number of products/services delivered

8 RESOURCE REQUIREMENTS

The INCOSE infrastructure for communications will be used (GlobalMeet, INCOSE Connect, and WebEx if needed).

Publishing resources will be handled through INCOSE TPP structure and regular budgeting means.

9 DURATION

This charter will remain in effect until rescinded by the signatory.

10 APPROVAL (INCLUDE MEMBER ROLES & RESPONSIBILITIES IN ADDENDUM)

Technical Director, INCOSE   Date

Revision History

Date	Revision	Description	Author
3/25/2019	1.0	Initial Draft.	Sean McCoy
26 Nov 2019	2.0	Adjustments from AD Tech Ops.	Chris Hoffman