Systems Engineering Quality Management

www.incose.org/IW2021

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INCOSE WEB PAGE

https://connect.incose.org/WorkingGroups/SEQM/SitePages/Home.aspx

INCOSE CONNECT ADDRESS

https://qualitymanagementinstitute.com/INCOSE/default.aspx

Charter Summary

WG PURPOSE/MISSION

Quality Management is one of the six Organizational Project-Enabling Processes described in the INCOSE Handbook v4 (Section 7.5) and in ISO/IEC/IEEE 15288:2015.

The overall purpose of the Systems Engineering Quality Management Working Group is to foster the definition, understanding and practice of quality management in the systems engineering profession.

This purpose will be achieved by the establishment of quality management as a cornerstone of professional development that adds value to the systems engineering profession, and engineering in general, through the following initiatives:

- Developing and elaborating systems engineering as a leadership discipline with quality management as a foundational competency,
- Enabling systems engineers to develop and expand the skills to manage process quality and increase profitability,
- Considering the organization as a system, fully integrating the process, the person and the job description, and
- Raising the level of professionalism, corporate and technical influence, job satisfaction and the career path trajectory.

Charter Summary

WG GOAL(S)

The purpose of the working group will be realized through the accomplishment of the following goals. Where appropriate, these goals will be further elaborated and planned using Technical Program Plans.

1. Initial publication of a key definitional article on systems engineering quality management (2020)
2. Training SEQM Working Group leaders in quality management (begun Q3 2018 and continuing)
3. Delivery of regular webinars and tutorials on SEQM (starting Q1 2019 and ongoing)
4. Development of SEQM leadership training for the INCOSE members. The Training WG will be informed of the training offered by SEQM so that is may be included on any INCOSE-wide training plans (begun Q1 2019 and continuing)
5. Enable and encourage SEQM WG leadership to achieve certification as SE Quality Managers (SEQM) from the Quality Management Institute (at no cost) (begun Q3 2018 and continuing)
6. Launch of research projects to further develop SEQM and document quantitative results from the application of quality management in systems engineering
7. Build a continuing presence of SEQM thought at the INCOSE IW and IS, through submitted papers, panels and tracks
8. Developing SE-QM leadership descriptions and overview material, targeted for inclusion in key INCOSE publications such the Handbook (Q1 2020) and SEBOK
9. Collaboration where appropriate with other INCOSE Working Groups including the Competency WG to include SEQM in their frameworks, the Process Improvement WG to include SEQM in processes and the Enterprise Systems WG on the paradigm of ?organization as system?

Charter Summary

WG SCOPE

Quality management, as addressed in this working group, is distinct from other aspects of quality such as quality assurance, quality control and acceptable quality levels. Quality management is also distinct from the SE disciplines of verification and validation of systems.

This working group aims to address quality management as a leadership and management discipline, as applied within systems engineering. This follows the approach to quality management described in the works of Deming, Crosby and Juran, but limits the application to the engineering and systems engineering disciplines.

The working group will also address the connections of quality management to other areas of systems engineering, notably systems thinking and organizational leadership.

OUTCOMES (PRODUCTS/SERVICES)

The following outcomes are envisioned for the SEQM working group.

1. Article on systems engineering quality management
2. QM certificate education for SEQM working group members
3. Published articles on SEQM research projects
4. SEQM leadership descriptions and overview material

IW Outcomes

IW OUTCOMES

- Continue to present, explain and advocate for QM discipline and concepts applicability to SE disciplines and understanding
- Continue to develop INCOSE products around QM
- Continue to work with other WG's on integrating QM concepts into other WG efforts.
- Continue to grow WG and encourage completion of QM certification

PLANNED ACTIVITIES AFTER IW

- Continue weekly management meetings to develop strategies and review of opportunities
- Institute quarterly meetings with entire WG to discuss project ideas and continue developing SE QM concepts.
- Work with INCOSE chapters to make presentations on SEQM and impacts/benefits
- Reach out to other organizations to work on cross organization projects involving QM (IEEE, PMI, AQM) - Post COVID - conference attendance as available
- Look for/seek opportunities to team with other WG's on joint efforts.

IW Outcomes

PLANNED WORK PRODUCTS AFTER IW

SEQM primer
INSIGHT article on SEQM - "What is QM"