# 1 PURPOSE

As a not-for-profit membership organization, the International Council on Systems Engineering (INCOSE) depends on the value provided to its individual and organizational membership as well as in the curating and continued expansion of the systems engineering discipline. As illustrated in Figure 1, INCOSE provides services and expands the state of the art in systems engineering in support of its member communities and in cooperation with other professional organizations that depend on systems engineering.
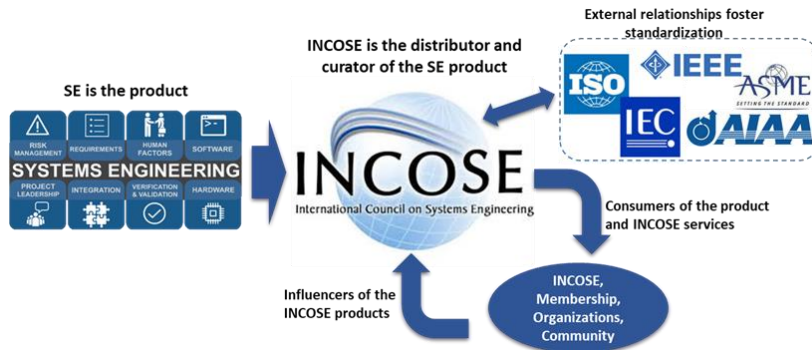
Figure 1 – Value Strategic Initiative Stakeholders

Major value streams for INCOSE include products, events, certification efforts, membership and training. Value is at the core of all of these INCOSE efforts as indicated in Table 1. Without value there is no membership, without membership there is no INCOSE.

**Table 1 – INCOSE Value Stream Dependencies on Value Propositions**

Value Stream	Value Proposition Dependency
Product	• What are the benefits of systems engineering and how does it improve ability to deliver the right product on time and on budget? • How do I tailor lessons learned to my industry and area of expertise?
Event	• What does the organization gain from sponsoring employee participation? • How can organization further its goals with sponsorship / participation?
Certification	• Why should I become certified and maintain / upgrade my certification
Membership	• Why should I join INCOSE and/or maintain my membership • Why should organization join INCOSE and how will it benefit bottom line
Training	• What training is available for my organization? • How do I identify required training gaps?

Value propositions for systems engineering, corporate and individual INCOSE membership, and INCOSE certification are key elements of growing and attracting and maintaining members. Value propositions have historically been identified as a top priority by the INCOSE Corporate Advisory Board (CAB) as recently as 2017, by the Future of Systems Engineering (FUSE) initiative in 2018, and by earlier INCOSE efforts that led to specific studies and results. In general, these have not kept pace with the evolving nature of systems engineering and/or have not encompassed the breadth of needs. A more holistic approach is required to distill the characteristics of what a value proposition is, develop a taxonomy of required tailored views, and develop a tailored set of statements for each need all based on the same core value proposition characteristic set.

FINAL

The Value Strategic Initiative (VSI) seeks to distill the characteristics of value propositions and project those values to a prioritized taxonomy of needs whose major classes include the audience, the area and the industry. The rationale for this initiative is derived from a strategic need to better articulate these benefits and values in the operation and management of INCOSE as a more effective service delivery enterprise.

2 GOAL

The goal of this initiative is to create compelling value propositions that span the needs of the stakeholders and provide a process for updating in time while maintaining a base core set of principles. The VSI will investigate and catalog previous INCOSE value proposition efforts, previous systems engineering related efforts, and general literature on compelling value statement generation and in the process will distill the salient characteristics of compelling value propositions. It will also create a listing of the needs for value propositions and organize that into a prioritized taxonomy. Finally, the core principles will be applied to this taxonomy for the generation of tailored value propositions. The process for this effort is illustrated in Figure 2.
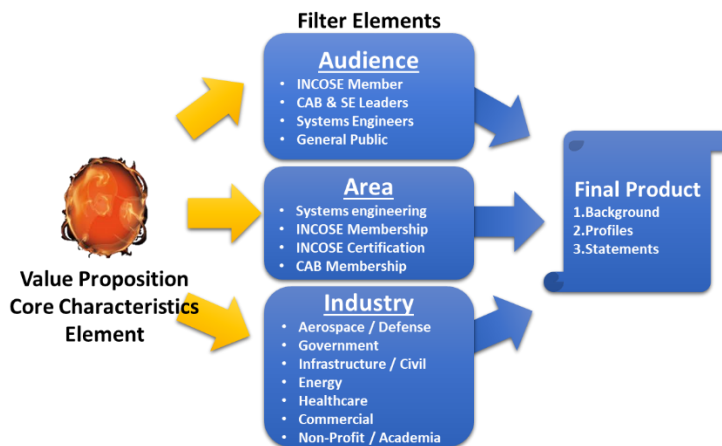
Figure 2 – Value Proposition Generation Process

Value propositions will be analyzed and the salient characteristics will be distilled and catalogued in the core value proposition. Tailoring attributes will be catalogued in a taxonomy of value proposition needs called filters. Each filter is composed of elements and each element is described by a profile, the value proposition core is also an element and is described by a profile. A taxonomy evaluation will be performed to verify that the filters and filter elements represent a complete set that spans the current and future needs. Complete assurance that all future needs are captured is not possible but ensuring that the core characteristics are correct and having a process for updating and regenerating new sets of value propositions is captured here. The final product is a document which captures the process, full set of profiles and prioritized taxonomy, and value statements that speak to each tailored set. As time permits, this process will also be carried for different epochs (present and some future time) to generate differences and gaps that can drive systems engineering needs.

A profile catalogs the main aspects of a particular element. For the core, the profile identifies the main attributes of a value proposition which are then applied to each filter element. For the filter elements, the profile identifies the characteristics of that element and the main value needs which are generated by tailoring the core profile characteristics to that element. Element profiles consists of profile name, version number, description of the intent of that profile, needs of that profiled element, characteristics of that

profiled element, and key tailoring points. For the core, the profile mainly consists name, version, description, and characteristics to be projected to other elements.

The literature on what makes a compelling value proposition is vast. A Forbes magazine online article titled "4 Steps to Building a Compelling Value Proposition" (Michael Skok, 14 June 2013) defines a value proposition as "a positioning statement that explains what benefit you provide for who and how you do it uniquely well. It describes your target buyer, the problem you solve, and why you're distinctly better than the alternatives".

The taxonomy filters are based on 3 major categories: audience, area, and industry. The VSI will examine this taxonomy in detail to outline the key elements and ensure that the 3 filters are sufficient. Each filter element addresses key needs. Table 2 outlines the initial set of needs for the audience filter elements.

Table 2 – Audience Filter Draft Needs

Audience Filter Elements	Profile Draft Needs
INCOSE Member	• Individual members questioning the value received • Individual members that do not feel engaged • Associate members thinking about transitioning to individual membership
INCOSE CAB Corporation and Systems Engineering Leadership	• Corporations and universities evaluating their annual membership costs • Corporations and universities evaluating the value of CAB membership for their employees and operational advantage
Systems Engineering Community	• Engineers, educators, managers and corporations looking to become involved with INCOSE • Engineers, managers, corporations, customers of systems engineering capability to manage their program technical objectives
General Public	• Individuals interested in systems engineering discipline and career paths

Table 3 outlines the initial set of needs for the area filter elements.

Table 3 - Area Filter Draft Needs

Area Filter Elements	Profile Draft Needs
Systems Engineering	• What are the benefits of systems engineering to my project and how does it affect my ability to deliver the right product on time and on budget
INCOSE Membership	• Why should I join INCOSE and/or maintain my membership
INCOSE Certification	• Why should I become certified • Why should I maintain and upgrade my certification
CAB Membership	• Why should my corporation join INCOSE and how will it benefit my bottom business line • Why should my non-profit or academic organization join INCOSE and how will it benefit my mission

Table 4 outlines the initial set of needs for the industry filter elements.

Table 4 - Industry Filter Draft Characteristics

Industry Filter Element	Profile Draft Characteristics
Aerospace / Defense	• Large, long term investments • Safety driven • Complex integration / high technology levels / automation

	• Educated and up to date workforce / contractors
Government (defense, space, emergency response, Infrastructure)	• Large, long term investments • Societal / citizen need driven • Country GDP and security driven • Educated and up to date workforce / contractors
Infrastructure / Civil	• Large, long term investments • Societal / Market driven • Safety driven • Country GDP • Environmental restrictions driven
Healthcare (equipment, medicine)	• Societal / Market Driven • Safety driven • High technology levels / automation • Educated and up to date workforce / contractors • Competition / cost driven
Energy (oil, gas, renewable)	• Competition / return driven • Environmental restrictions driven
Commercial (electronics, communications, transportation)	• Fast time to market and product evolution • Revolutionary research based market driven solutions • Return on investment • Educated and up to date workforce
Non-profit and Academia (research, education, education provider)	• Mission statement driven • Driven by research and/or service • Education / literature provider

3   SCOPE

The scope of this initiative includes the perceived value of benefits realized from the professional practice of Systems Engineering; programs and services of the INCOSE professional organization; and membership on the INCOSE Corporate Advisory Board (CAB) as depicted in Figure 1 and Figure 2. In researching the value and characteristics of value propositions, the effort will be limited to INCOSE and systems engineering applicability. The primary product generates tailored value propositions based on present needs but a narrow scope look at future TBD year needs might be performed if time allows from which gap analysis could be performed. Interfaces with INCOSE efforts are illustrated in Table 5.

Table 5 – Value Strategic Initiative Dependencies

Organization	Dependency
INCOSE Board of Directors (BoD)	• VSI chartered by BoD • Activity reports to BoD quarterly • VSI depends on BoD for INCOSE communications
INCOSE Strategic Objective Initiative (SO)	• BoD SO for Future, Premier and Value • Regular coordination of activities
INCOSE Future of Systems Engineering Initiative (FUSE)	• Future value integral part of FUSE • VSI regular reports into FUSE efforts
INCOSE Technical Operations (TechOps)	• VSI reports to TechOps quarterly • VSI depends on TechOps WG support
INCOSE Corporate Advisory Board (CAB)	• CAB is major stakeholder for VSI

	• VSI depends on CAB for support and review

4   SKILLS AND EXPERTISE REQUIRED

Senior members of INCOSE, members of INCOSE CAB, administrative staff and other stakeholders associated with the profession/practice of Systems Engineering, serving on a voluntary basis, will be the principal participants in this initiative. Should additional external expertise be required to meet these commitments a proposal including budget will be submitted to INCOSE leadership for approval before proceeding. If the proposed INCOSE community survey is approved, assistance will be required for the general mailing and in preparation for the questionnaire and ensuing data analysis.

Figure 1, Figure 2, Table 4, and Table 5 illustrate the stakeholder and organization dependencies required for the success of this effort. A key element is the correct mix of expertise from the representative industries outlined in the taxonomy. Having the necessary points of view and mix of experiences is required to correctly characterize and capture information in the taxonomy element profiles. Figure 3 illustrates the VSI membership at the start of 2019. As indicated in this graphic, the VSI management will continuously work to increase participation in needed areas and ensure the VSI message is distributed throughout INCOSE.
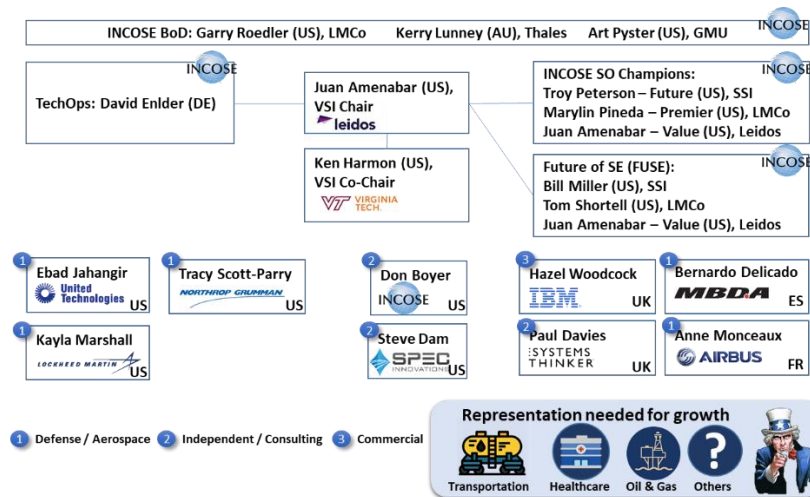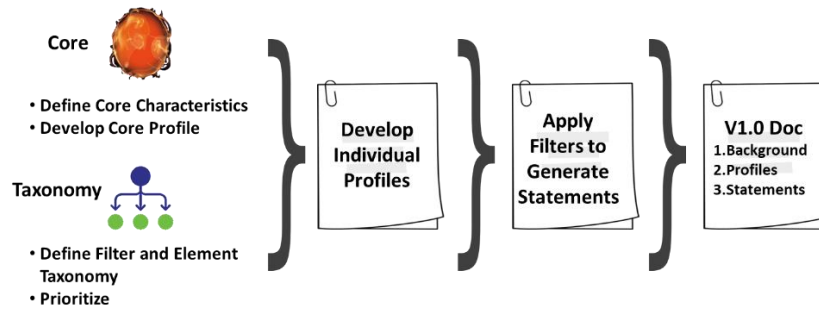

Figure 3 – Value Strategic Initiative Spring 2019 Membership

5   OUTCOMES (PRODUCTS/SERVICES)

Figure 2 depicts the process for this initiative. Details of assignments, membership participation, schedules, deliverables and tracking measures. Figure 4 illustrates the sequence of events required to complete this project.

Figure 4 – Value Strategic Initiative Master Plan

Frequency and rough delivery schedule of products is catalogued in Table 6.

Table 6 – Value Strategic Objective Products

Product	Description	Frequency / Milestone
VSI Charter	Describe goals, objectives, products and needs	Spring 2019
VSI Technical Project Plan	VSI execution details	Updated as needed
VSI Reports / Coordination	Quarterly to BoD, SO, TechOps	Quarterly / as needed
VSI presentations	Briefings to community	As needed / coordinated
VSI Taxonomy	Organized and prioritized list of needs by filter	IW20
VSI Element Profile	Element and core profiles	IW20 draft, IS20 final
VSI Value Statements	Value statements for prioritized taxonomy	IS20 draft, IW21 final
VSI Report V1.0	Report outlining process, taxonomy, profiles and value statements	IW21 v1.0

6 APPROACH

Figure 2 and Figure 4 illustrate the process and overall plan for the execution of this initiative. Table 5 and Table 6 illustrate the dependencies on INCOSE organizations and the list of products along with rough delivery milestones. As stated in Section 5, the details of the execution will be published in the VSI's Technical Project Plan (TPP) which will be updated regularly.

The main source of communication and data management for this initiative is the webpage contained in the INCOSE Connect site. Figure 5 illustrates the details of the VSI's webpage.

Figure 5 – Value Strategic Objective INCOSE Connect Website

Content description of the website page are listed in Table 7.

Table 7 – Value Strategic Initiative Website Folder Details

VSI Web Space Folder	Purpose
Charter & Program Plan	Contains project management files including charter
Meeting Minutes & Assignments	Chronological listing of monthly meeting folder files and minutes; VSI presentations to other organizations
Reference Library	Reference material
Taxonomy	Organized and prioritized taxonomy of value needs
Profiles	Profiles of each taxonomy element and core value characteristics
Deliverables	VSI deliverables

Meeting take place online using GlobalMeet (https://incose.pgimeet.com/INCOSE_GMThirteen) the fourth Friday of every month at 1300 US EST. For each meeting, attendees utilize a PowerPoint template found in the "Meeting Minutes & Assignments" folder to update their status and efforts to date. After each meeting, minutes are generated and distributed. Presentations for external meetings are also date stamped and placed in the same folder.

Major phases are outlined in section 5 of this document and are tied to the product development. After v1.0 release of the value proposition document, plans will be evaluated for follow on versions and potential development of value propositions for different future epochs that can support the FUSE effort and gap analysis efforts.

7 MEASURES OF SUCCESS

The VSI requires senior membership from a variety of industries and nationalities to ensure a holistic approach that spans the needs of the INCOSE enterprise and systems engineering as a whole. The membership involved in the development of this charter is depicted in Figure 3. Initiative leadership will continue to coordinate with other INCOSE organizations as outlined in Table 5 to grow representation. As that table shows, there is close coordination with TechOps, Strategic Objective initiatives, and FUSE. There is also close coordination with the INCOSE BoD and CAB with quarterly and symposium updates.

Specific plans are published in the Technical Project Plan which include measures of effectiveness regarding deliverables and schedule milestones. Softer MOEs will be the size of the membership and cooperation with other activities such as FUSE, SO and CAB.

8 RESOURCE REQUIREMENTS

This initiative is an all-volunteer effort with support from member corporations for necessary travel to yearly symposiums. Member time is required for product review and generation, initiative management and communications, data and website page management, and monthly meetings.

Online conferencing as well as a dedicated space within INCOSE.org for sharing of information is required. Meetings will be held using GlobalMeet and teleconferences provided by INCOSE. A dedicated website space within INCOSE Connect has been established and is discussed in section 6.

Resources outside of INCOSE are not expected and no outside contracting costs are initially anticipated. Should they be required this charter will also be updated at that time. Although not anticipated, one such possibility is outside consulting from organizations with value proposition development expertise for feedback, review and consulting.

Publishing of the final report will require INCOSE coordination and funding. Coordination will start when that activity is close to completion.

9 DURATION

The Value Strategic Initiative appointment letter dated 29 April 2019 approves this effort for a 3 year term through IW 2022.

10 APPROVAL (INCLUDE MEMBER ROLES & RESPONSIBILITIES IN ADDENDUM)

The Value Strategic Initiative appointment letter dated 29 April 2019 approves this effort by INCOSE leadership and is signed by David Endler, INCOSE TechOps Director.

11 REVISION HISTORY

Date	Revision	Description	Author
7/10/18	0.1	Initial Draft.	Amenabar/Harmon
7/27/18	0.2	Draft to membership for review	Amenabar
8/3/18	0.3	Draft including community comments	Amenabar
8/7/18	1.0	Working Initiative Charter	Amenabar
9/18/18	1.1	Final version	Amenabar
1/26/18	1.2	Updated member roster	Amenabar
5/13/19	2.0	Final version	Amenabar