INCOSE Value Strategic Initiative Report (V1.2)

July 12th, 2021

Value Strategic Initiative Group

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1 VALUE STRATEGIC INITIATIVE (VSI) EXECUTIVE SUMMARY

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. Without value there is no membership and without membership there is no INCOSE.

As an identified need by INCOSE's corporate and individual members, the VSI was chartered at the INCOSE's International Symposium in 2019 (IS19) held in Washington DC. The VSI objectives are to: (1) develop a set of value statements for INCOSE, (2) determine the stakeholders need for specific value statements, (3) establish a repeatable methodology to arrive at value statements and maintain them in the future as needs evolve, (4) implement a deployment and maintenance mechanism that utilizes these recommendations for INCOSE membership utilization.

This report presents a summary of the work to date including value statements, methodology and description of the taxonomy outlining what value statements are necessary and for what audience are they tailored.

Section 2 introduces the VSI and provides a background and schedule to the work. Section 3 provides an account of the derived value statements. Section 4 provides recommendations for improvement within INCOSE based on these value statements. Section 5 discusses possible methods to deliver these value statements to the community and the responsibility to maintain them. Section 6 describes the methodology derived from this effort to create and maintain value statements. Section 7 outlines the taxonomy contents which describe the elements to include: area – what the statements are for, audience – who the statements are tailored to, and industry – what industries particular statements tailored to. The taxonomy provides the characteristics of each element as well as the characteristics of generic value statements which are combined to produce the required value statements.

2 VALUE STRATEGIC INITIATIVE (VSI) INTRODUCTION

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.

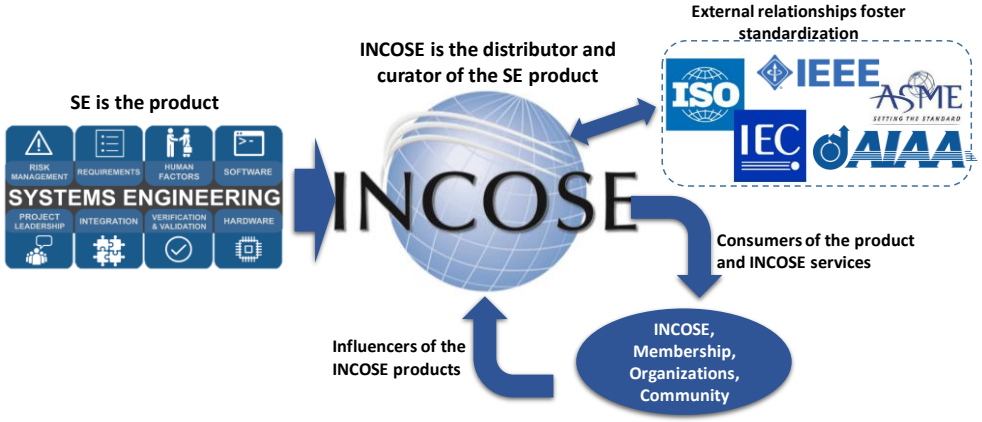

Figure 1 – Value Strategic Initiative Stakeholders

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 Statements

Value Stream	Value Statement Dependency
Product	• Why should I utilize / depend on INCOSE generated materials? • What materials are available from INCOSE and how do I access them? • What information is available in the website and how do I navigate it?
Event	• What does my organization gain from sponsoring employee participation? • How can my organization further its goals with sponsorship / participation?
Certification	• Why should I become certified and maintain / upgrade my certification? • How does a certified workforce improve my organizational goals?
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 evaluate my capabilities and identify required training gaps?

Value statements for systems engineering, corporate and individual INCOSE membership, and INCOSE Systems Engineer Professional (SEP) certification are key elements of growing and attracting and maintaining members. Value statements have 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 earlier products were very specific, lacked a holistic development approach, and have therefore not kept pace with the evolving nature of systems engineering and do not encompassed the breadth of needs.

The Value Strategic Initiative (VSI) has overcome these shortcomings through: (1) the generation of a taxonomy identifying all of the key elements and stakeholders,

(2) generation of profiles that encapsulate the key characteristics of each taxonomy element, (3) utilization of these profiles and taxonomy organization to create relevant and tailored value statements. Through the generation of a development and maintenance process, this effort has ensured that this product remains relevant in the future. Table 2 outlines the initiative objectives and results to date.

Table 2 – VSI Objectives and Results to Date

Initiative Goal	Results Achieved
Develop a process to distill the core characteristics of a value statement, define the needs of the community, develop value statements tailored from this set	Approach developed in 2019 Initial report released IS20
Develop value statement products that are tailored to specific needs and users	Initial set IS20 (version 0.1 of report). Final v1.2 IS21
Maintain those value statement products to keep up with changing needs and technology	Ongoing and future
Maintain communication within and outside INCOSE on these products to (1) promote INCOSE products, membership and certification, (2) promote systems engineering as a whole	VSI Chair serves as INCOSE's Value Strategic Champion and is tasked with coordinating these activities with INCOSE leadership
Maintain developed products, overcome miss conceptions regarding systems engineering, evolve with the state of the art and needs of the community	In progress

Taxonomy elements include audience, area and industry. Audience is who this statements are tailored to and what that audience characteristic profile is, area defines the value statements target along with the characteristics and key points to consider, and industry characteristics are utilized to tailor the systems engineering value statement to those stakeholders.

2.1 VSI PRODUCT HISTORY AND FUTURE

The VSI started as a CAB identified need at the INCOSE International Workshop in Torrance, CA in 2017 (IW17). It was established and chartered as an INCOSE initiative at the INCOSE International Symposium in Washington DC in 2019 (IS19) and runs through the INCOSE International Workshop in 2022 (IW22) for the current team. The process will continue to support INCOSE for many years. The VSI Technical Project Plan (TPP) v2.0 defines the key milestones of this project.

This version of the VSI report is an early draft of the expected product which will be maintained through the process described in this document. This version presents the final product structure, the methodology for arriving at and maintaining future releases and the draft value statements. The intent is to provide a document with all of the necessary elements of the finalized copy even though some of the section contents might still be in draft form. Table 3 shows the version history of this document.

Table 3 – VSI Document Version History

Version	Date	POC	Content

0.1	1 April 2020	J. Amenabar	Original draft report outline and graphics
0.2	6 April 2020	J. Amenabar	Comments from VSI workgroup
1.0	31 January 2021	J. Amenabar	Added new section 4.0 and 5.0. Finalized comment incorporation
1.1	8 July 2021	J. Amenabar	Cleaned up value statement tables, deleted empty one Updated Figure 5 Cleaned up recommendations for improvement table

Table 4 outlines the product history for this initiative as well as the planned products leading to the first release (version 1.0) and implementation of this report by IW22.

Table 4 – 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 Draft Report	Initial VPI report with complete outline, process and draft graphics and value statements	IS20
VSI Report Review	BOD peer review	IS20 through IW21
VSI Report v1.0 Review	CAB and TechOps peer review	IW21 through IS21
Finalized VSI Report V1.0	Report outlining process, taxonomy, profiles and value statements	IW22 v1.0
VSI Report v1.2	Updated recommendations and final comments incorporation	IS22 v1.2

2.2 VSI TEAM

Many individuals contributed to the original product organization, material research, and development of the generic value statement profile through 2019. A small core team has carried this work beyond that original effort to develop the taxonomy, process and final product.

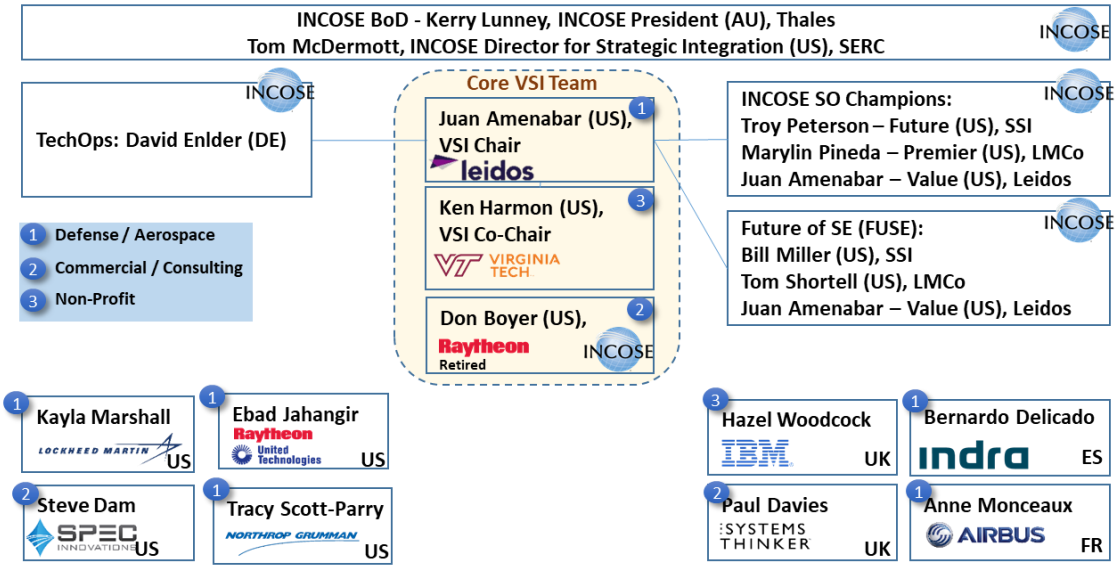

Figure 2 – VSI Team

As with all INCOSE efforts, this initiative is an all-volunteer group and activities include: product generation and review, initiative management and communications, data and website page management, and monthly meetings attendance.

The VSI start up team consisted of senior membership from a variety of industries and nationalities to ensure a holistic approach that spans the needs of the INCOSE enterprise. Close coordination with TechOps, Strategic Objective initiatives, FUSE, the BoD, and CAB has been maintained throughout by leadership sharing responsibilities across these areas.

2.3 VSI STAKEHOLDERS AND DEPENDENCIES

Interfaces between the VSI, INCOSE areas, and the membership are depicted in Figure 2. Major stakeholders and organizations with dependencies to the VSI are illustrated in Table 5. Ultimately, the consumer of these product is a major stakeholder.

Table 5 – Value Strategic Initiative Dependencies

INCOSE 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

3 VALUE STATEMENTS

This section provides the initial draft statements generated through the process outlined in section 4. Figure 5 and Figure 6 show the number of required value statements. There are 4 audience driven value statements and 3 industry tailored value statement for this version of the document for a total of 7. Through the implementation of this process, future work group membership might arrive at a different set of statements as the practice of systems engineering evolves.

Table 6 – Value of Individual Membership to individual

INCOSE membership provides education and training, professional networking, reference materials, and a place to share ideas. This is done at international and local chapter sponsored events, webinars, meetings and publications.

- Entry level members gain access to career guidance, learning and reference materials, networking and involvement opportunities;
- Mid-career members gain a platform to exchange ideas and enhance professional networks, and gain certification;
- Senior level members participate in the various working groups and can provide guidance and mentorship to the entire community.

Table 7 – Value of Individual Membership to Organization

Same as Table 9

Table 8 – Value of Organizational Membership to organization and leadership

As a critical element of INCOSE's leadership, the Corporate Advisory Board (CAB) member organizations receive complementary associate membership for their employees providing them access to training, standards, resource materials. CAB organizations are key decision makers with the ability to influence INCOSE's products and services for their particular needs

Table 9 – Value of Individual Membership to SE leadership

SE leadership will find that enterprise employees participating in SE activities are better prepared as contributing team members. Employees assigned to work primarily in Systems Engineering have resources and opportunities for personal

professional development and the solving of problems associated with their work in Systems Engineering.

Table 10 – Value of Certification

Certified workforce increases efficiencies through common understanding and approach, increasing business and mission opportunities through community acceptance and recognition. INCOSE is the premier systems engineering worldwide organization that can support systems engineers across 35 different nations and through the world wide web.

Table 11 – Value of INCOSE to general public

• The International Council on Systems Engineering (INCOSE) is a not-for-profit membership organization founded to develop and disseminate the interdisciplinary principles and practices that enable the realization of successful systems. INCOSE is designed to connect SE professionals with educational, networking, and career-advancement opportunities in the interest of developing the global community of systems engineers and systems approaches to problems. We are also focused on producing state-of-the-art work products that support and enhance this discipline's visibility in the world. • With over 17000 members, 70 local chapters in over 35 countries, and almost 3500 INCOSE Systems Engineering Certified Professionals INCOSE is the premier provider of material, training, career development mentorship, undergraduate and graduate scholarship and sponsorship of STEM events, research and development,

Table 12 – Value of Systems Engineering to Gov/Infra/Aero/Defense Industry

• Systems Engineering provides a tailorable, systematic approach to all phases of a project, from mission analysis to disposition. • Systems Engineering can accommodate different approaches including agile and traditional waterfall, and facilitate commonality and open architectures to ensure lower acquisition, maintenance and upgrade costs. • By confirming correct and complete requirements and requirements allocation, the resulting design has fewer and less significant changes resulting in improved overall cost and schedule performance.

Table 13 – Value of Systems Engineering to Commercial Industry

Companies and other enterprises in commercial industry will benefit from the internal practice of professional Systems Engineering by having enhanced their capability for the development of innovative products and services for distribution in both mature and immature markets, in a more efficient and competitive manner

Table 14 – Value of Systems Engineering to Non-Profit / Research Industry

• A non-profit enterprise will benefit from the internal practice of professional Systems Engineering by having enhanced their capability for the development of innovative client services in a more efficient and competitive manner. • An enterprise engaged in basic or applied research will benefit from the internal practice of professional Systems Engineering by having enhanced its capabilities for discovery and invention that supports technology development in a more effective manner.

4 ACTIVITIES TO INCREASE VALUE

Given the tailored value proposition statements as well as the methodology to further develop and maintain them in the future the next question is how to implement and make use of them to improve INCOSE as an organization. Table 15 provides a summary of recommended activities to increase value across the taxonomy identified areas as well as a summary of measures of performance to provide feedback to INCOSE of activity payoff.

Table 15 - Targeted Activities to Improve INCOSE

value subject	value audience	activities to increase value	measure of increased value
Individual Membership	Entry Level Individual Member	• Organized easy to navigate website • Easy to navigate material download / store • On demand short instructional videos • On demand updated courseware on SE topics and tools • Global hyperlinked schedule of activities and seminars • Access to mentoring and Q&A with peers and senior members	• Entry level member retention • Associate to full member conversion • Website and library/store download track • On demand video utilization • Inter website channel communication traffic

Individual Membership	Mid-career Individual Member	• Entry level + • Certification training online • Access to on demand reference material and documentation templates • Access to working group reports and workings • Posted workgroup participation needs	• Mid-career member retention • Workgroup participation / activities / pubs • IS Paper / publication increase • IW/IS participation
Individual Membership	Senior Individual Member	• Mid-career+ • Mentorship opportunities / channels • INCOSE leadership opportunities • INCOSE senior level recognition • Future of SE development	• Increase in mentorship • increase in leadership participation
Individual Membership	SE Organization / Leadership	• these are individual and CAB activities	• Same as individual and CAB MOP
Organizational Membership	Common	• Facilitate CAB activities • Perform study of value to CAB based on participation and activities	• CAB participation • CAB agreement increase • CAB associate member retention • CAB corporation participation
INCOSE Certification	Common	• Work with acquirer organizations to increase demand for certified workforce in acquisition process • Work with universities to provide certification to graduating SEs • Work with other organizations such as PMP to exchange credentials and share ability to get certified	• Certification increase • Certification retention
Systems Engineering	Gov/Infra/Aero/ Defense Industry	• Ongoing work to establish value	• Increase in SE across industry • Increase in demand for SE and DE across customer base
Systems Engineering	Commercial Industry	• Expand ongoing DoD centric studies to commercial industry to establish value	• Increase in SE and DE in commercial industry
Systems Engineering	Non-Profit / Research Industry	• Increase studies for tailoring of SE to small and R&D industrial base • CAB sponsorship / mentoring of small organizations • CAB study of small / R&D organization SE/DE utilization	• Increase in related WG/CAB/publications

5 VALUE STATEMENT DELIVERY

Having a process to derive value statements, value statements and activities to increase value of INCOSE and Systems Engineering it is necessary to consider what medium or combination of mediums will be utilized to transmit these messages across industry and the public at large.

INCOSE needs to consider the ongoing curation of this process as well as the distribution of these evolving value statements in the appropriate media. Industry journals are a clear medium but other targeted areas should be considered to include meetings, general publications, and radio/television. This should become a panel study within INCOSE to determine the best return for investment.

6 DEVELOPMENT APPROACH

The literature on what makes a compelling value statement is vast. A Forbes magazine online article titled “4 Steps to Building a Compelling Value Proposition” (Michael Skok, 14 June 2013) defines a value generation 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 VSI creates compelling value statements that span the needs of the stakeholders and provides a process for maintaining these in the future. To achieve this, the VSI investigated and catalogued previous INCOSE value statement generation efforts, previous systems engineering related efforts, and general literature on compelling value statement generation. Through this initial research effort it distilled the salient characteristics of compelling generic value statements which became the profile of the generic value statement element.

The VSI developed a taxonomy of filter elements along with profiles encapsulating the salient characteristics of each. This taxonomy provides the areas to be covered by value statements, the audience whom these statements are tailored for, and a distilled set of industries whose profiles provide tailoring points for the value of the systems engineering area.

The VSI process combines these audience, area and industry profiles along with the core value statement profile to generate targeted value statements (Figure 3). By maintaining the profiles updated, this process ensures that a consistent and relevant set of value statements can be generated as the taxonomy elements evolve in time.

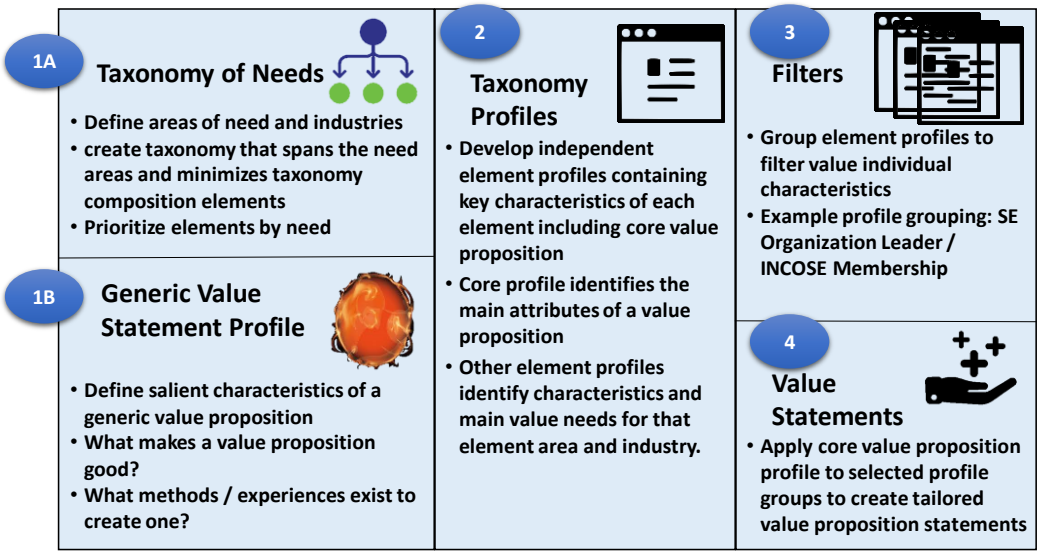

Figure 3 – Value Statement Generation Process

The taxonomy and element composition definition ensured that the outcome spans the current and future needs of the organization. This was balanced against the tendency to define everything as a taxonomy element making the number of combinations unmanageable. Because this effort starts with a defined process, it also ensures that future evolution of the enclosed elements can be accounted for by modifying current and/or defining new profiles. Generating desired profile combinations, filters with desired value statement characteristics are created through which the generic core value characteristics can be applied to create the required outcomes.

7 TAXONOMY

The VSI developed the taxonomy to determine the required elements, to ensure that they span the needs of the organization, are independent, and minimize the number of variables to reduce complexity. The taxonomy is based on 3 independent variables: audience, area, and industry and 4 dependent variables: individual membership, organizational membership, INCOSE certification, systems engineering. The dependent variables are the area for which value statement are developed. Early in the development, systems engineering was grouped with the other dependent variables and the independent variable industry contained as many as 6 industry types. As the process evolved, it was discovered that audience value statement results were not very dependent on industry as much as the systems engineering value statement. For this reason, the taxonomy was split, one for audience and one for systems engineering. Further analysis demonstrated that the systems engineering area was not sensitive to the many industry elements. After study and consultation with the CAB the original list of industries was consolidated into 3: government / contractor, commercial, non-profit and research. Figure 4 shows the dimensions for both taxonomies, audience vs area for one taxonomy and industry vs system engineering for another taxonomy.

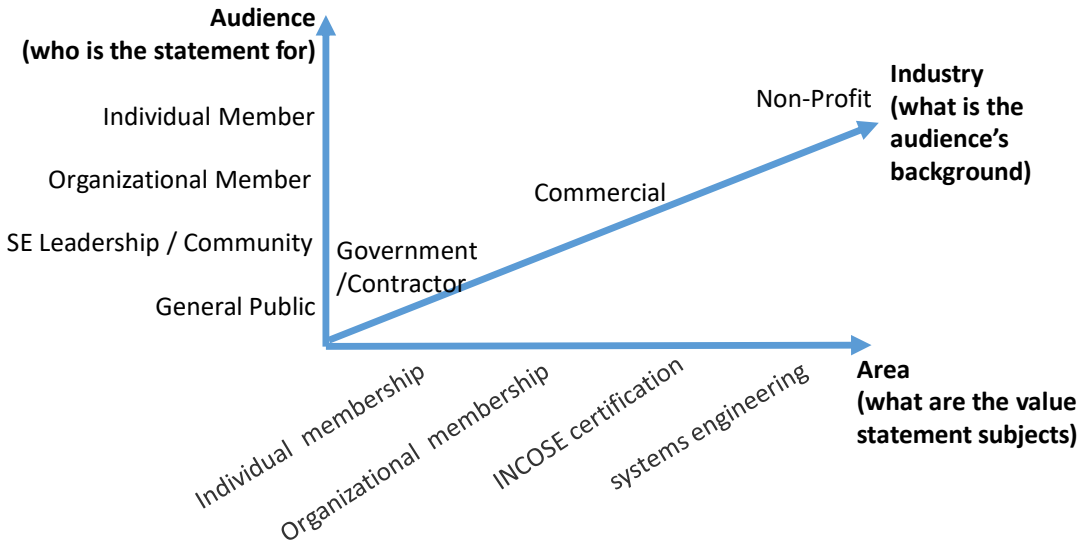

Figure 4 – VSI Taxonomy Dimensions

Figure 5 shows a mapping of the resulting value statements to the taxonomy. As discussed, taxonomy area elements include individual membership, organizational membership, INCOSE certification and systems engineering. The "x" values indicate where a value statement is generated for a total of 8 statements outlined in Section 3.

Individual membership value statements are tailored to the individual member who is thinking about rejoining or becoming more involved, the general SE community and leadership who is thinking about joining or sponsoring employees to join, and the general public who is thinking about joining.

Organizational membership is driven by CAB organizations considering why they should remain members and what value they currently get out of being a member as well as organizations that are not members and are looking to become one or sponsor their employees to become members.

Certification is common across the audience as individual membership is required, belief in INCOSE and its mission is assumed, belief in systems engineering is assumed.

		Audience				
		Individual Member	Organizational Member	SE Leadership / Community	Non-SE community / General Public	
Value Statements	Individual Membership	X	X	X	Same as Ind.	3
	Organizational Membership		Common			1
	INCOSE Certification	Common across Audience				1
						5

Figure 5 – Audience Taxonomy Driven Value Statements

Systems engineering value is not dependent on audience but rather on industry whose elements are: government and contractor large projects, commercial projects, and non-profit and research projects. Figure 6 shows the industry driven value statements.

	Industry			
	Government / Infrastructure / Aerospace / Defense	Commercial	Non-Profit / Research	
Systems Engineering	Common Across Audiences But Tailored to 3 Industry Categories			3
				3

Figure 6 – Industry Taxonomy Driven Value Statements

7.1 TAXONOMY ELEMENT PROFILES

The taxonomy identifies the area, industry and audience that make up the possible combinations of required value statements. As outlined in the section 6 approach, the characteristics of each element are combined with the characteristics of a generic value statement to produce the required stakeholder specific value statements. This section outlines the key characteristics of the taxonomy elements.

7.1.1 GENERIC VALUE STATEMENT PROFILE CHARACTERISTICS

This profile describes the basic characteristics of a generic value statement. These characteristics where arrived at by several months of research by VSI Working Group participants and form a key element of the taxonomy combinations required to produce tailored value statements.

A good value statement requires:

- **Clear, simple statement** of the benefits, both tangible and intangible, that the organization will provide, along with the approximate price it will charge each customer segment for those benefits
- Statement that **clearly identifies what benefits a customer will receive** by purchasing a particular product or service from a vendor
- **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**

Characteristics of a good generic value statement are:

- **Target**: **Definition of target market** (taxonomy element) by segmenting the target into more specific focused people based on their attitudes, beliefs, behavior, location, gender, age, etc. We can start to narrow down which audience/area/industry we are talking about
- **Insight**: **Definition of what problem we intend to solve**. It relates directly to the target market, it will be the target market biggest unmet need and our intended audience will have many problems/needs but we will be focused on the one that is most significant to them because in solving that escalates the value statement.
- **Alternatives**: To **understand what alternatives already exist** in the market for the intended audience/area/industry to resolve that problem who directly or indirectly already delivers against that problem **and why they fail to adequately solve it**?
- **Benefits: It is our promise**. The benefit is a function of the insight if we know the biggest problem of my intended audience/area/industry, the benefit we offer cannot be anything else, it has to be a commitment to solve that problem nothing else.
- **The reason to believe: The proof that we can make the benefit come to life and deliver** the promise to solve the insight despite the fact all those alternatives have failed to do so in the past.
- Superiority: It is also called discriminator, differentiator or unique selling point. We want to be able to say is this value statement that we are offering we can deliver the benefit to a high degree of uniqueness and superiority over everything else that exists in the market hence they should come to us.

7.1.2 TAXONOMY ELEMENT PROFILE CHARATERISTICS

Table 16 summarizes the audience element profile. Members are individual full members or CAB associate members. Organizational members are CAB organizations and their leadership. Systems engineering leadership and overall community are the management chain that makes decisions about allowing employees to attend conferences, become involved in INCOSE, sponsor their membership and/or certification fees, and the general systems engineering community looking to join INCOSE and/or become certified. General public includes population outside the working systems engineering community and includes those interested in systems engineering and students of systems engineering.

Table 16 – Audience Element Profile

	Audience	Profile Characteristics
Internal	Individual Member	• Entry level members looking to learn and grow career goals and objectives; are media savvy and look for content that is valuable, well organized, and easy to navigate. • Mid-level members busy in their career looking for networking opportunities and ideas, supporting material and venues to publish their results. • Senior level members full of experience looking to actively participate in activities and working groups, networking and giving back
Internal	Organizational Member	• Looking for employee training, solutions to complex emerging problems, authoritative source of reference material, ability to drive products and services and add value to their organization.
External	Systems Engineering Leadership and overall community	• Senior organization leaders making decisions about systems engineering, staffing training, employee participation in INCOSE • Not directly associated with INCOSE
External	General Public	• Individuals and organization interested in systems engineering discipline and career paths • Definition and value of systems engineering, introduction material on well-organized intuitive website, INCOSE events, efforts, education and learning opportunities, INCOSE public reach, STEM, scholarship information

Table 17 summarizes the industry element profile. Government / Infrastructure / Aerospace / Defense includes the large government sponsored projects with contractor support and development. Commercial includes the independent market driven industry. Non-profit and academia includes the research and university organizations.

Table 17 - Industry Element Profile

Industry Element	Profile Characteristics
Government / Infrastructure / Aerospace / Defense	• Large, long term investments • Safety driven • Societal / citizen driven

	• Complex integration / high technology levels / automation • Country GDP and security driven • Educated and up to date workforce / contractors
Commercial	• Societal / Market driven / Return on investment • Safety and competition driven / Revolutionary products • Environmental and federal regulatory driven • High technology levels / Automation / Fast time to market • Educated and up to date workforce / contractors
Non-profit and Academia	• Mission statement driven • Driven by research and/or service • Education / literature provider

7.1.3 TAXONOMY ELEMENT KEY NEEDS

The taxonomy for each element includes the profiles outlined in section 7.1.2. It also contains key points for each element that need to be considered when developing a value statement for that audience and area. This section presents the taxonomy key points for each element. Table 18 through Table 21 provide the audience value statement taxonomy key points with audience as the independent variable. Table 22 provides the taxonomy systems engineering value statement key points with industry as an independent variable.

Individual member audience key points are presented in Table 18.

Table 18 – Individual Member Audience Taxonomy Key Points

Audience	Individual Membership Statement Key Points	Organizational Membership Statement Key Points	INCOSE Certification Statement Key Points
Individual Member	• INCOSE members receive education and training, networking possibilities, reference materials, and a place to share ideas • Local chapter participation and activities. National events, webinars, meetings. INCOSE publications, website • Why should I join INCOSE and/or maintain my membership	Not applicable to individual member	• INCOSE certification numbers have leveled off and industry does not see the value for certification without customers requiring it like they might do with PMP • INCOSE's certification structure provides a variety of individual participation. • Why should I maintain and upgrade my certification • Why should I become certified

Organizational member audience key points are presented in Table 19.

Table 19 – Organizational Member Audience Taxonomy Key Points

Audience	Individual Membership Statement Key Points	Organizational Membership Statement Key Points	INCOSE Certification Statement Key Points

Organizational Member	Not applicable to individual member	• CAB organizations receive membership for their employees, participation in CAB decision making and ability to drive INCOSE's products and services for their particular needs • CAB corporations drive individual and associate membership as well as systems engineering needs through the CAB. They also sponsor events, studies and research opportunities • CAB organizations want their employees to have access training, materials, and meeting opportunities, local chapter participation, national events, webinars, meetings, INCOSE publications, website, certification preparation, and local chapter participation • Why should my organization join INCOSE and how will it benefit my mission purpose	• INCOSE provides organizations with an agreement to sponsor their own certification process

Systems engineering leadership and systems engineering community audience key points are presented in Table 20.

Table 20 – Systems Engineering Leadership / Community Audience Taxonomy Key Points

Audience	Individual Membership Statement Key Points	Organizational Membership Statement Key Points	INCOSE Certification Statement Key Points
Systems Engineering Leadership and overall community	• Certified employees require individual membership	• Why should my organization join INCOSE and how will it benefit my mission statement? • Why should my non-profit or academic organization join INCOSE and how will it benefit my mission • What is INCOSE and what does it provide?	• Certified workforce increases efficiencies through common understanding and approach • Certified workforce provide increased business / mission opportunities through community acceptance and recognition • Why should I sponsor employees to participate or become certified?

General public audience key points are presented in Table 21.

Table 21 – General Public Audience Taxonomy Key Points

Audience	Individual Membership Statement Key Points	Organizational Membership Statement Key Points	INCOSE Certification Statement Key Points
General Public	• INCOSE is the authoritative source of SE information, career development, and research • INCOSE and local chapters sponsor STEM and mentorship opportunities • INCOSE provides scholarship opportunities for SE students	Not applicable to General Public	• Engineering students can pursue ASEP certification

Systems engineering key points are presented in Table 22 by industry.

Table 22 – Systems Engineering Taxonomy Key Points

Audience	Government / Infrastructure / Aerospace / Defense	Commercial	Non-Profit / Research
General Public	• Strong systems engineering implementation • DoD has identified most program failures as lack of SE implementation • Software development has received much attention within SE spectrum due to many failures • Commonality and open architecture as well as low total ownership cost are key factors in this space • Infrastructure / large construction not as developed in SE implementation	• Non-uniform or traditional systems engineering implementation • Return on investment not as clear • Need to cooperate with tool developers to ensure next generation applications meet needs	• Systems engineering research • Need strong ties to ensure next generation of SEs meets complexity and short time to market demands • Cooperation required to drive systems engineering approaches

Some common key points related to systems engineering across all industries are:

- Systems Engineering is misunderstood as a discipline that requires heavy process at the expense of results
- Benefits of systems engineering tailored to specific industries (my project) and its effect on ability to deliver the right product on time and on budget are not well understood
- INCOSE needs to provide well organized, authoritative, easy to access information to drive systems engineering

8 PROCESS IMPROVEMENT

As described in section 2.2, there is a core team supporting this effort. As the material is generated and the process installed and supported by INCOSE, comments can be made to the following individuals:

- Juan P. Amenabar, Chair: juan.p.amenabar@leidos.com
- Ken Harmon, Co-Chair: kharmon@vt.edu
- Don Boyer, principal member: don.boyer@incose.org

As the product matures, INCOSE will take responsibility for deploying the results and this report to the membership. This will include posting the statements in the INCOSE website for all members to access and providing a feedback area in the same space for members to provide their input as time evolves. A support working group will continue to maintain configuration control and status accounting of these products or it will become a responsibility of TechOps, MarCom or the BoD.

9 SUMMARY

This report of the VSI effort provides a summary of the efforts to date to achieve the stated goals of: (1) developing a set of value statements for INCOSE, (2) determining the stakeholders need for specific value statements, (3) establishing a repeatable methodology to arrive at value statements and maintain them in the future as needs evolve, (4) implementing a deployment and maintenance mechanism that utilizes these recommendations for INCOSE membership utilization.

This first full version presents a full accounting of the work completed to date. Although the process to derive and maintain value statements is mature and ready to support future efforts, the current details of presented value statements are open to review and should only be considered preliminary drafts. A schedule leading to IW22 has been presented which outlines the expected deliverables through the final v1.2 report.

Activities to increase INCOSE value and measure its progress are presented. INCOSE needs to start considering implementation recommendations made in this report to ensure that deployment and future maintenance and support are ensured.

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