INCOSE Principles

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Background. During the June 2014 INCOSE Board of Directors meeting, the Board discussed access to various INCOSE products (those already existing and those in development) as part of a Corporate Advisory Board (CAB) transformation initiative. With several views put forth, it was determined that a task force was needed to study the question of member benefit differentiation so that a consistent framework could be established to determine what INCOSE assets should be restricted for individual members and what should be provided to members of CAB organizations. When this task force reported back during the October 2014 Board meeting, there were clearly opposing yet rational and defensible positions. At that point, the Board identified the need to make INCOSE's tacit principles explicit.

Description. Our values represent **who** we are. Our mission and vision represent **what** we are trying to achieve. Our principles represent **how** we pursue our mission / vision within the bounds of our values.

In defining our principles, it is worth noting that:

- Our principles are a limited set of items, likely five to seven in the beginning.
- In large part, our principles already exist. They are naturally implicit, embodied in our bylaws, policies, organizational architecture, and tribal knowledge.
- Principles are stable over time but can shift as changes in our environment trigger discovery and evolution (e.g., the transformation of NCOSE to INCOSE).
- Principles are architectural statements about the organization and behaviors we have chosen. They are derived requirements.
- Any definition of our principles is likely incomplete. As we encounter an issue where we have legitimate contradictory positions that each align with our values, mission, and vision, underlying those competing positions is likely a missing principle. When this occurs, the appropriate action is to define the underlying principle and find agreement before (or as part of) resolving the issue.

Use. By making our tacit principles explicit, we can increase our efficiency and effectiveness as we align both organizationally and as individuals around these statements. In part, we will use principles

- To help induct new leaders across the organization enabling us to act more cohesively and consistently
- To inform Board of Directors decisions as well as those throughout INCOSE
- To attract like-minded people and organizations to us and allow those who don't align to see and understand the lack of alignment
- To identify strategies and supporting tactics
- To inform a review and refinement of the INCOSE architecture
- To drive near-term and long-term budget decisions

Impact

INCOSE assesses its impact based on the delivery of value to members and other stakeholders.

Expansion and Rationale

- INCOSE does not base decisions regarding our strategy, initiatives, and the corresponding expenditures (volunteer and staff time as well as money) purely on financial results. At the same time, INCOSE recognizes that sustainable finances enable us to deliver greater value.
- INCOSE membership includes both our individual members and our corporate members (organizations who choose to affiliate with us in pursuit of our mission as part of the Corporate Advisory Board and Academic Council). Impact considers the value delivered to each group as well as other stakeholders.
- INCOSE strives to deliver tangible outcomes that improve the state of the planet and advance the state of the practice.

Examples

- The decision to pursue a formal certification program for systems engineering represents a long term investment in the profession. It was determined that a certification program properly executed would elevate the status of the profession and its practitioners. In the process, it would strengthen our alignment and dialog around a core body of knowledge. The decision to invest in certification does not preclude an approach that would yield financial self-sufficiency over time. However, if INCOSE prioritized financial return over impact, the certification program would not have been approved or maintained through its early years.
- Translation of products – whether the Systems Engineering Handbook, other technical products developed at the international level, or chapter products – is first considered based upon impact. The 2014 decision to underwrite the translation of the AFIS Product Line Guide to English had no financial benefit for INCOSE. However, it was felt that making this knowledge asset available in English yields impact worthy of the investment. Note that the application of the impact principle – like other principles – is not black and white. The impact of the added value was traded off against the corresponding cost, and the value was determined to be worth the expense. If INCOSE followed a business model favoring financial considerations first, this specific translation would not have been funded since there is no opportunity for revenue to offset the expense.

Partnership

INCOSE builds and disseminates products and services jointly with others to maximize our impact.

Expansion and Rationale

- INCOSE partners with government, academic, and professional organizations to better serve our members and other stakeholders.
- INCOSE values systems knowledge, methods, and tools – those developed within the INCOSE community and those developed beyond. We maximize our impact through the creation, connection, brokering, and dissemination of knowledge.
- Engaging with others to harmonize knowledge bases, standards, and approaches – across application domains, organizations, and geographic boundaries – is a critical dimension of partnership. Systems engineering continues to grow and evolve, and this growth requires cycles of divergent and convergent thought. Harmonization is one vehicle to leverage the key contributions of these cycles.
- This principle is also about <u>achieving outcomes</u>; i.e. building products and services jointly with others when this maximizes our impact.
- An important factor is bringing the right people to the table at the right time – both in the development and the dissemination.

Examples

- Though INCOSE is not a standards publishing body, INCOSE participates in many standards initiatives in partnership with ISO, IEEE, and other bodies. These efforts come at notable expense in terms of volunteer time and INCOSE financial commitment. However, they help align and propagate knowledge through these key channels, benefitting INCOSE members and the greater community.
- INCOSE partners with the Systems Engineering Research Center (SERC) and the IEEE Computer Society on Body of Knowledge and Curriculum to Advance Systems Engineering (BKCASE). This results in the joint development and promotion of Guide to the SE Body of Knowledge (SEBoK) and Graduate Reference Curriculum for SE (GRCSE). As an outgrowth of this and several other collaborative efforts, the SERC invited the INCOSE President (ex officio) to serve on their advisory board.
- Over the last 10+ years, INCOSE has worked to harmonize ISO 15288, the INCOSE SE Handbook, SEBoK, and related products and standards. Reducing conflict between standards and key technical guides has benefitted members and stakeholders.

Holism

INCOSE emphasizes the whole over the individual parts in our creation of an integrated global technical network.

Expansion and Rationale

- INCOSE is a global organization with local entities, not a federation of entities.
- We believe in tailoring to address the diverse needs of nations, regions, and application domains.
- Part of INCOSE's unique value proposition resides in the connection and integration across organizational, geographic, and application domain boundaries.
- INCOSE's efforts blend directed projects supporting our strategy with the organic efforts of our members in working groups and chapters. This combination of directed and organic efforts reflects our global / local mentality and should be continuously celebrated and reinforced.

Examples

- INCOSE is governed by a single international Board of Directors predominantly elected by individual members. Within that governing board are Sector Directors (elected by chapter presidents) and the CAB Chair (elected by corporate members). If INCOSE were a federation, its Board would reflect a United Nations model with delegates representing the various entities.
- Member dues are partitioned between the international entity and the local chapter, enabling INCOSE to serve its members through both global and local dimensions.
- INCOSE chooses to coordinate its efforts through basic values, principles, mission, vision, and memorandums of understanding. It seeks to enable organic initiatives within a lightweight framework rather than control and limit.
- Chapter initiatives – such as the Competency Framework from the UK Chapter or the SE Handbook originated by the San Francisco Bay Area Chapter – are often shared with others and become the foundation for international products.
- Certification began as an international initiative but was initially heavily driven by US stakeholders. During the following decade it has matured and broadened as a wider global community has engaged in the initiative. Specific agreements have since shaped the implementation within given nations to preserve the underlying foundation while aligning with local accreditation and professional licensing frameworks.

Differentiation

INCOSE recognizes the unique value of those who choose to affiliate with us, prioritizing direct affiliation and active participation over indirect or passive connection.

Expansion and Rationale

- INCOSE recognizes the higher value of direct affiliation as a member over indirect connection via an affiliated organization.
- It is important to recognize and prioritize the inputs of those who contribute actively to the activities and governance of the organization. While we seek to hear and understand the needs of all members and other stakeholders, those who actively engage and contribute have greater influence and impact on the organization and its priorities.
- We recognize the priority of serving all who choose to affiliate with us while simultaneously delivering value to the greater stakeholder community.
- INCOSE seeks to provide differentiated value to differentiated individuals. In doing so, we recognize the difference between fairness and equality. One INCOSE product may be developed for and provided only to CAB organizations whereas other products may be developed solely for individual members.

Examples

- *As the member benefit differentiation discussion is finalized, specific examples should be listed. Until then, any conceptual examples would be premature.*

Volunteers

INCOSE is led by volunteers who set our fundamental direction.

Expansion and Rationale

- INCOSE derives its strength from the passion and systems expertise of our volunteers.
- While INCOSE members may be experts in systems issues, meeting our objectives and delivering against our vision require a far broader skillset. Our dedicated professional staff bring these critical skills to INCOSE.
- INCOSE's volunteerism value reflects the importance of "volunteers and staff working together" and the unique contribution both groups deliver.
- INCOSE values impact (as reflected in the Impact principle) as a primary consideration above financials. The perception is that as organizations transition from volunteer leadership to paid leadership, impact and technical importance can be preempted by a business mentality. That transition would not be consistent with INCOSE's principles.

Examples

- As INCOSE seeks to transform several of its board positions which are not currently tenable for persons with full-time employment, it will transform them by complementing them with additional support through professional staff and volunteers. It will not cede control to a paid staff member (whether an executive director or other role).
- Where specialty INCOSE volunteer roles directly benefit from skilled professional staff, the volunteer must have the necessary domain knowledge to lead and contribute. In other words, it would be inappropriate for INCOSE to have a CIO who was not knowledgeable – at a strategic and leadership level – in enterprise-level IT. Likewise, it would be inappropriate for INCOSE to have a Director for Marketing and Communication who lacked background and knowledge in these fields.
- The Certification Program Manager is responsible for both program strategy and execution. The program manager works closely with the President-Elect who sets the overall agenda in conjunction with the Board of Directors. In addition, the Certification Advisory Group controls the corresponding competency standard. This combination reflects our volunteerism value and the unique contribution volunteer and staff can make within a construct consistent with this principle.