INCOSE

Open Call for Solutions

From Industry Needs to Actionable Projects.
Open Calls to the Systems Engineering Community.

2026

AN INITIATIVE OF THE

Corporate Advisory Board

Open Call for Solutions From Industry Needs to Actionable Projects. Open Calls to the Systems Engineering Community.

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This publication was developed by the INCOSE Corporate Advisory Board based on needs identified during the CAB sessions of the 2026 INCOSE International Workshop.

Nothing in this publication constitutes a contractual obligation on the part of INCOSE or any CAB member organization. The Calls for Solutions describe needs and evaluation criteria; they do not guarantee funding, project approval, or organizational commitment.

For questions about the Call for Solutions process, application requirements, or this publication, visit the CAB webpage at incose.org or contact INCOSE at cab-inquiries@incose.net or publications@incose.net.

Foreword

In the months leading up to the January 2026 International Workshop, we talked with members of Corporate Advisory Board (CAB) organizations about what they needed from systems engineering. Not abstractly, but in concrete terms about what practitioners face every day. Those conversations shaped the working sessions that followed.

At the workshop itself and additionally through meetings afterwards, representatives from across the CAB surfaced 200 specific needs, drawn from experience in aerospace, defense, automotive, healthcare, energy, and other sectors. Their efforts identified needs related to existing systems engineering tools, methods, procedures, training, and software.

The needs were documented alongside the individuals and organizations that raised them, then clustered into seven thematic categories. We met with several INCOSE working groups to understand where existing work already aligned with what the CAB had identified, and where it didn't. From those gaps, thirty Calls for Solutions were formulated: twenty-six open to the broader community, and four that INCOSE has taken on as institutional commitments.

Importantly, this initiative is piloting something larger: a formal mechanism for translating industry-identified needs into specified work. If the initiative works as designed, it stands to become a permanent part of how INCOSE operates for many years to come. This ambition echoes in many ways the founding desires of NCOSE more than thirty years ago, which envisioned exactly this kind of responsiveness to sit at the center of what our society does. Our efforts are delivering on that original intent.

We invite you to study the Calls for Solutions provided in this document. If you can contribute, whether as an individual, a team, an organization, or a working group, we want to hear from you. These needs will evolve. As systems engineering organizations face new challenges, this portfolio will be updated and new calls will follow.

To everyone who contributed: thank you for your continued collaboration and being transparent about your greatest challenges. Your commitment to, and passion for, systems engineering is what made this project possible.

Dr. Robert F. Bordley
Chair, Corporate Advisory Board

Esteban Solórzano
Co-Chair, Corporate Advisory Board

Table of Contents

The Initiative: From Needs to Solutions....1
Participating Organizations and CAB Membership 4
By the Numbers 7
Series 1 – Process & Speed....12
Series 2 – Systems Engineering Value & Culture 19
Series 3 – Workforce & Education.... 25
Series 4 – Digital Engineering 31
Series 5 – Tools & Digital Practice.... 36
Series 6 – Knowledge & Standards 43
Series 7 – Member Services & Partnerships 50
Appendix A: Traceability Index 57
Appendix B: Priority and Sequencing.... 62
What Comes Next 67

The Initiative: From Needs to Solutions

A. The Structural Problem

Every year, senior leaders from the world's leading systems engineering organizations sit together as members of INCOSE's Corporate Advisory Board and articulate what the systems engineering discipline needs in order to address today's challenges. They describe the gaps practitioners face on the ground – in process adoption, in workforce readiness, in tool interoperability, in how organizations demonstrate the value of systems engineering to skeptical leadership. The needs expressed are real, specific, and often urgent. They come from companies and institutions whose engineers encounter these problems daily.

And yet, for most of its history, INCOSE has lacked a direct mechanism to act on them.

This is not an indictment. It is a structural observation. INCOSE's Technical Operations division oversees more than fifty working groups spanning the full breadth of systems engineering. These groups are volunteer-driven and self-organizing – they define their own project scopes, set their own timelines, and produce deliverables according to their internal expertise and priorities. That autonomy is not incidental to the working group model. It is the reason the model works. It enables deep, sustained exploration of topics driven by member passion and technical judgment, and it has produced some of the discipline's most enduring reference works.

However, this same autonomy means that working groups cannot reasonably be expected to absorb work defined by external stakeholders. They are already committed to their own project areas. Redirecting their resources toward CAB-identified priorities would undermine the very independence that makes them effective.

The result is a structural gap: the entity best positioned to identify what industry needs, the CAB, has no pathway to commission work that addresses those needs, and the entity that produces technical deliverables, TechOps, was not designed to receive externally originated requirements.

What was missing was not willingness on either side. What was missing was a mechanism.

B. The Solution Concept

The Call for Solutions workflow was designed to close that gap – not by changing what working groups do, but by building a parallel pathway alongside them.

The concept is a pipeline. It begins where every good engineering process begins: with the need. CAB member organizations participate in structured elicitation sessions, discussing the challenges, gaps, and priorities they face in the practice of systems engineering. Those raw needs are captured, analyzed, and clustered into a coherent problem space that could be addressed by a focused deliverable.

The clustered needs then pass through a screening stage. Not every need requires the creation of something new. Some have been addressed by existing INCOSE products, published literature, or resources already available to practitioners. Screening helps ensure that the pipeline invests effort only where genuine gaps remain.

From the surviving clusters, Calls for Solutions are formulated. Each Call for Solutions specifies the problem to be addressed, the type of deliverable expected, the proposed acceptance criteria and evaluation priorities. These are intentionally small in scope and are designed so that a team of volunteers can realistically deliver a result within a constrained timeframe.

Once published, the Calls for Solutions are open to qualified individuals who voluntarily form project teams and submit applications. A Joint Review Panel, composed of CAB, TechOps, and Academic Council leadership, evaluates applications, commissions teams, and tracks projects through to completion. The result is a new class of deliverables: small-scope, well-defined, schedule-driven, and directly responsive to industry priorities.

C. What Happened at the Workshop

From January 31 to February 3, 2026, INCOSE convened its International Workshop. During that workshop, CAB member organizations participated in multiple needs elicitation sessions with structured conversations designed to surface the most pressing challenges facing the systems engineering community.

The breadth of the room was notable. Forty-four organizations contributed directly: twenty-nine CAB member companies spanning aerospace, defense, automotive, healthcare, energy, and industrial sectors; six academic institutions bringing research and education perspectives; and nine INCOSE working groups and internal bodies providing technical community insight. Together, they produced 188 concrete statements of where the discipline falls short and what practitioners need next.

Those needs were then analyzed and clustered into seven thematic groups:

- Process and Speed;
- SE Value and Culture;
- Workforce and Education;
- Digital Engineering;

- Tools and Digital Practice;
- Knowledge and Standards; and
- Member Services and Partnerships.

Each cluster captures a distinct dimension of the challenge space, from how organizations tailor systems engineering processes for speed, to how the discipline equips its next generation of practitioners, to how INCOSE itself delivers value to its members.

The clustered needs were screened for existing solutions and formulated into thirty Calls for Solutions – twenty-six open to the broader community and four representing institutional commitments that INCOSE itself has undertaken. Each Call traces back to specific needs raised by specific organizations at the workshop.

This booklet is the result of that work. It contains each Call for Solution as both a record of what CAB organizations asked for and an invitation to the systems engineering community to respond.

Participating Organizations and CAB Membership

Contributors

The following organizations participated directly in the needs elicitation sessions at the January 2026 International Workshop and through meetings. Their input produced the 200 needs statements that became this booklet.

Contributing CAB Member Organizations

3DSE Management Consultants | The Aerospace Corporation BlueHalo Labs, An AV Company | Boston Scientific Corporation | Capgemini Engineering | CT Engineering Group | Cummins, Inc. | Dassault Systèmes | Embraer | Ford Motor Company | GE Aerospace | General Dynamics | General Motors | Hitachi Energy | Honeywell Aerospace Technologies | IQNOX | John Deere & Company | L3Harris Technologies | LEONARDO | Lockheed Martin Corporation | Los Alamos National Laboratory | Northrop Grumman Corporation | Prime Solutions Group, Inc | RTX | Shell | Siemens | Sierra Nevada Corporation | Space Dynamics Laboratory | System Strategy, Inc (SSI) | Thales | Vector Informatik GmbH | Woodward Inc

Contributing Academic Institutions

California State University Dominguez Hills | Purdue University | The George Washington University | University of Arkansas | University of Michigan, Ann Arbor | Virginia Tech | Worcester Polytechnic Institute (WPI)

Contributing INCOSE Working Groups and Internal Bodies

Agile Systems & SE Working Group | Decision Analysis Working Group | Defense Systems Working Group | Embedding SE Into Organizations Working Group | Future of Systems Engineering (FuSE) | INCOSE Tech Ops | MBSE Initiative Working Group | Requirements Working Group

Eight additional needs emerged from collaborative discussion sessions involving multiple participating organizations.

Full CAB Membership Roster

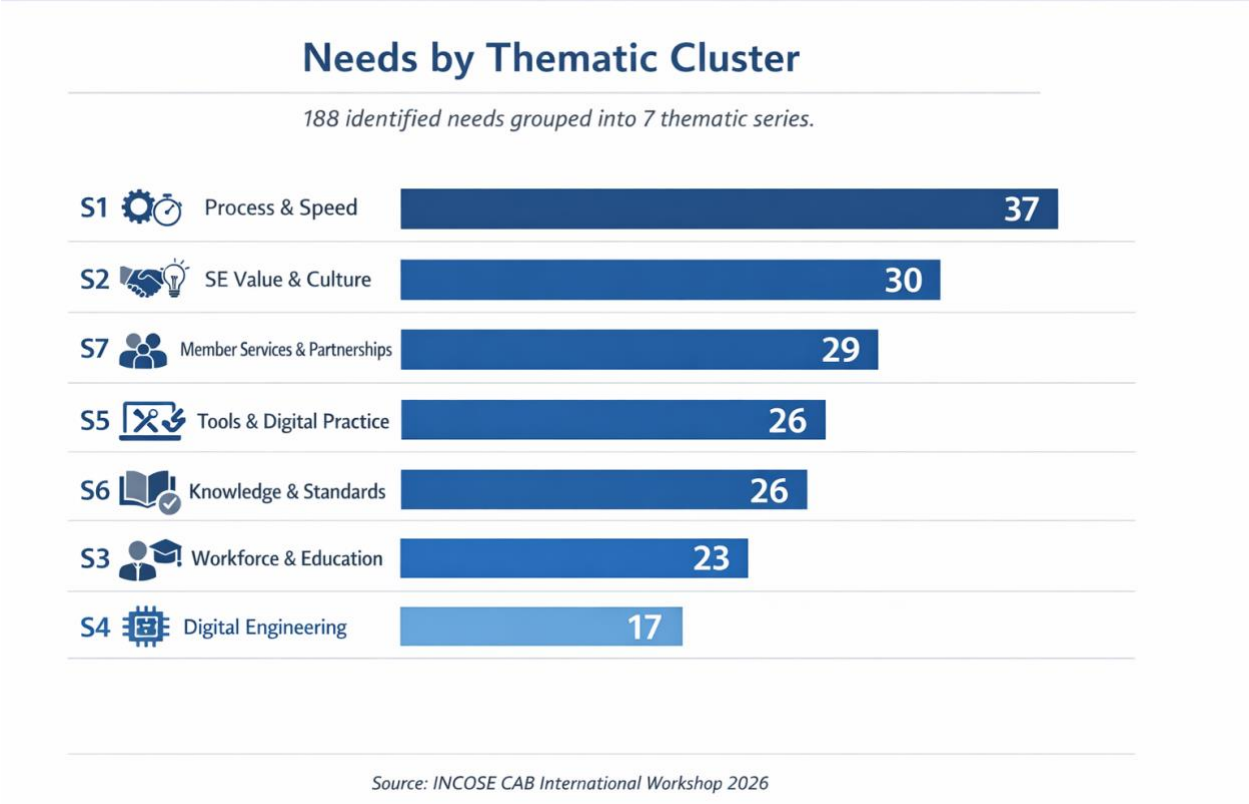
This initiative is made possible by the investment and commitment of the full INCOSE Corporate Advisory Board.

3DSE Management Consultants | Advanced Systems Engineering, LLC | The Aerospace Corporation| Airbus | Albers Aerospace | AM General LLC | Analog Devices, Inc. | ANSYS, Inc | Arcfield | Auburn University | Australian National University | Aviage Systems | Aviation Industry Corporation of China, LTD | BAE Systems | Bechtel | Becton Dickinson | Belcan Engineering Group LLC | BlueHalo Labs, An AV Company | BMT Canada | Boeing Company, The | Booz Allen Hamilton Inc. | Boston Scientific Corporation | BTS Software Solutions | California State University Dominguez Hills | Caltech | Capgemini Engineering | Carnegie Mellon Univ. Software Engineering Institute | Change Vision, Inc. | Colorado State University Systems Engineering Programs | Commercial Aircraft Corporation of China, Ltd (COMAC) | Cornell University | Cranfield University | C.S. Draper Laboratory, Inc. | CT Engineering Group | Cubic Corporation | Cummins, Inc. | Dassault Systèmes | Defense Acquisition University | Deloitte Consulting, LLC | Denso Create Inc | Dentsu Soken Inc | DigiFlight, Inc. | Drexel University | Eaton | Embraer | FAMU-FSU College of Engineering | Federal Aviation Administration (U.S.) | Florida Institute of Technology | Ford Motor Company | GE Aerospace | General Dynamics | General Motors | George Mason University | Georgia Institute of Technology | Hitachi Energy | Honeywell Aerospace Technologies | Huawei Technologies Co. Ltd | Idaho National Laboratory | IQNOX | ISAE – Supaero | ISDEFE | IVECO Group | Jama Software | Jet Propulsion Laboratory | John Deere & Company | Johns Hopkins University | KBR, Inc. | Keio University | L3Harris Technologies | Lawrence Livermore National Laboratory | Leidos | LEONARDO | Lockheed Martin Corporation | Los Alamos National Laboratory | Loyola Marymount University | Magna | ManTech International Corporation | Marquette University | Massachusetts Institute of Technology | MBDA (UK) Ltd | Medtronic | MetaTech Consulting Inc. | Missouri University of Science & Technology | MITRE Corporation, The | Mitsubishi Electric Corporation | Mitsubishi Heavy Industries, Ltd | Modern Technology Solutions Inc | National Aeronautics and Space Administration (NASA) | National Reconnaissance Office | Naval Postgraduate School | Nissan Motor Co, Ltd | Northrop Grumman Corporation | Pacific Northwest National Laboratory | Parametric Technology GMBH PTC | Pennsylvania State University | Petronas

International Corporation Limited | Prime Solutions Group, Inc | Project Performance International | Purdue University | RealmOne | Redwire Space | Rolls-Royce | RTX | Saab AB | SAFRAN | SAIC | Sandia National Laboratories | Saudi Railway Company | Shanghai Formal-Tech Information Technology Co., Ltd | Shell | Siemens | Sierra Nevada Corporation | Singapore Institute of Technology | Southern Methodist University | Space Dynamics Laboratory | SPEC Innovations | Stevens Institute of Technology | Strategic Technical Services LLC | Studio SE, Ltd. | Swedish Defence Materiel Administration | System Strategy, Inc | Systems Planning and Analysis | Taiwan Space Agency | Tata Consultancy Services | Terumo BCT | Thales | The George Washington University | The University of Arizona | The University of Texas at Arlington | The University of Utah | Torch Technologies | TOSHIBA Corporation | Trane Technologies | Tsinghua University | UK MoD | UNCOMN | Universidade Federal De Minas Gerais | University of Alabama in Huntsville | University of Arkansas | University of California San Diego | University of Connecticut | University of Maryland | University of Maryland, Baltimore County | University of Maryland Global Campus | University of Michigan, Ann Arbor | University of New South Wales, The, Canberra | University of South Alabama | University of South-Eastern Norway | University of Texas at Austin | University of Texas at El Paso | US Department of Defense | Vector Informatik GmbH | Veoneer US Safety Systems, LLC | Virginia Tech | Volvo Cars Corporation | Volvo Construction Equipment | Wabtec Corporation | Wayne State University | Weber State University | Wichita State University College of Engineering | Woodward Inc | Worcester Polytechnic Institute | Woven by Toyota, Inc. | Yulista Services, Inc. | Zuken, Inc

By the Numbers

200 Needs Captured	48 Contributing Organizations	7 Thematic Clusters	30 Calls for Solutions
from workshop sessions, interviews	33 companies + 6 academic + 9 internal	mapped back to 165 need statements	26 open + 4 institutional



Portfolio Distributions

30 Calls for Solutions by impact, delivery horizon, and release strategy.

Source: INCOSE CAB International Workshop 2026

About The Call

The INCOSE Corporate Advisory Board (CAB) represents leading organizations across industry, government, and academia who are invested in advancing the systems engineering profession. This open call invites INCOSE members, both individuals and teams, to provide solutions that address documented, high-priority needs of the systems engineering community.

These Calls for Solutions (CFSs) are organized into several thematic series, each targeting a distinct group of interconnected needs. Solutions are not required to address an entire series; each CFS is an independent scope of work. However, applicants who can demonstrate how their approach creates value across multiple CFSs within a series are encouraged to note this in their application.

The INCOSE CAB has defined the problem each CFS addresses, the proposed acceptance criteria that define a successful outcome, and the proposed evaluation priorities that will guide solution scoring. Applicants are expected to design their own approach to meeting the stated need. Innovation in delivery format, methodology, and execution is welcome.

Each CFS specifies a delivery horizon, resource demand, and industry scope. The delivery horizon is the approximate expected timeline from project commissioning, that is, from the point at which a selected team's scope and schedule are finalized – not from the date of this publication or from application submission.

How to Apply

All applications must be submitted through the INCOSE CAB application form. The form collects the information needed for review, including applicant background, organizational affiliation, planned approach, timeline, and responses to the Proposed Acceptance Criteria for the CFS being addressed.

Application Form:

INCOSE Call for Solutions Application

The application form will ask you to identify the CFS you are responding to, describe your planned approach to meeting the stated need, provide evidence of relevant background and prior work, and address each acceptance criterion listed in the CFS. Supporting materials, such as a CV or resume, may be attached.

The first application window was open April 1–30, 2026. Applications will be accepted on a rolling basis thereafter.

Review Process

Applications will be reviewed by a Joint Review Panel comprising the following INCOSE leadership:

- Technical Operations Director and Deputy Director
- Academic Council Chair and Co-Chair
- CAB Chair and Co-Chair

Each solution is evaluated against the Proposed Acceptance Criteria and Proposed Evaluation Priorities specified in the corresponding CFS. Proposed Evaluation Priorities indicate the relative weight given to different aspects of the solution. The first priority listed carries the highest weight. Applicants are encouraged to structure their application to address these explicitly.

Applicants may be invited to a brief discussion with the review panel before final decisions are made. All applicants will be notified of outcomes following the review period.

Award and Recognition

Teams whose applications are selected will work with INCOSE to finalize a project scope and delivery timeline through a collaborative negotiation process. Delivery timelines will be agreed upon jointly and will reflect the nature and complexity of the planned work.

Upon successful delivery of the work according to agreed project criteria, each awarded team member will receive a one-time complimentary registration to the INCOSE event of their choice.

INCOSE recognizes that the most valuable contribution awarded teams make is to the SE profession itself. Completed work will be attributed to the project team and published under the INCOSE brand as an authoritative resource for the global SE community.

Series 1 – Process & Speed

This series addresses the persistent challenge of right-sizing systems engineering effort to match program context, risk tolerance, and delivery constraints. INCOSE seeks solutions that help practitioners make principled, defensible decisions with SE rigor. SE must deliver value under compressed schedules and evolving delivery models, without defaulting to either over-engineering or dangerous shortcuts.

CFS ID	Title	Delivery Horizon	Resource Demand	Industry Scope
CFS-C1-01	Risk-Informed SE Process Tailoring: Maturity Profiles and Approved Reduction Frameworks	2 years	Small to medium project	Cross-cutting – all industry sectors
CFS-C1-02	Agile SE for Cyber-Physical Systems: When, How, and What to Avoid	2 years	Small to medium project	Aerospace, Defense, Automotive, Healthcare
CFS-C1-03	Minimum Viable Requirements: Enabling Concurrent Requirements and Architecture Development	2 years	Small to medium project	Cross-cutting – all industry sectors
CFS-C1-04	SE–Program Management Integration: Aligning SE Lead Times with Schedule Planning	2 years	Small to medium project	Cross-cutting – all industry sectors
CFS-C1-05	Compressed-Schedule SE: Methods for Delivering SE Value Under Time and Resource Constraints	2 years	Small project	Healthcare, Automotive, Defense, Aerospace

Risk-Informed SE Process Tailoring: Maturity Profiles and Approved Reduction Frameworks

CFS-C1-01 | Process & Speed Series

Delivery Horizon	Resource Demand	Industry Scope
Within 2 years	Small to medium project	Cross-cutting – all industry sectors

The Need

Practitioners and program teams lack authoritative, risk-calibrated guidance for deciding which SE process steps can be legitimately reduced or eliminated based on program cost, schedule, criticality, and risk tolerance. Without this, tailoring decisions are made arbitrarily, resulting in either over-engineering or dangerous process shortcuts. Organizations need pre-configured rigor tiers that make the risk-tailoring tradeoff explicit, and that clearly distinguish adjusting investment within a lifecycle stage from eliminating the stage entirely.

Suggested Deliverable Categories

- Guidance product with decision-support component
- Risk-tiered process maturity profiles
- Practitioner-facing tailoring decision framework

Proposed Acceptance Criteria

- A practitioner with no prior tailoring training can select an appropriate rigor tier for a defined program context in under 90 minutes.
- Covers at minimum 3 distinct industry domains with worked examples.
- Risk profiles are explicit and auditable. Applicant must justify each approved reduction against documented risk assumptions.
- Distinguishes stage elimination (prohibited without explicit justification) from investment adjustment within stages.
- Aligns with ISO/IEC 15288 process outcomes without contradicting them.

Proposed Evaluation Priorities

1. Rigor and defensibility of the risk-tailoring logic (highest weight).
2. Practitioner usability: can it be applied without a consultant?
3. Evidence of domain coverage beyond aerospace and defense.
4. Novelty of approach relative to existing INCOSE tailoring guidance.

5. Applicant's demonstrated experience applying tailoring in live programs.

Agile SE for Cyber-Physical Systems: When, How, and What to Avoid

CFS-C1-02 | Process & Speed Series

Delivery Horizon	Resource Demand	Industry Scope
Within 2 years	Small to medium project	Aerospace, Defense, Automotive, Healthcare

The Need

Organizations need authoritative guidance enabling application of agile methods to hardware-dominant and cyber-physical systems programs, not just software. They need to understand when agile approaches are appropriate versus inappropriate, how to manage the tradeoff between change velocity and error introduction, and how to avoid the documented failure patterns that cause more agile-SE implementations to fail than succeed. No normative INCOSE guidance currently addresses cyber-physical agile SE.

Suggested Deliverable Categories

- Framework with implementation guidance
- Agile applicability decision framework for physical systems
- Anti-pattern documentation from real implementations

Proposed Acceptance Criteria

- Explicitly addresses hardware-dominant and mixed cyber-physical programs – not software-only contexts.
- Includes a decision framework for determining appropriate Speed level based on program characteristics.
- Documents at least 5 "anti-patterns" from real failed agile-SE implementations.
- Covers minimum viable product strategies for physical systems development.
- Applicant must demonstrate validation with at least one non-aerospace/defense domain.

Proposed Evaluation Priorities

1. Evidence base: applicant's access to real agile-SE failure and success data.
2. Scope beyond software: how deeply does the approach address physical systems?
3. Practicality of the decision framework. Can a program manager use it without SE expertise?
4. Extent of validation across different industries.
5. Clarity of documentation of appealing solutions which are ineffective (anti-patterns)

Minimum Viable Requirements: Enabling Concurrent Requirements and Architecture Development

CFS-C1-03 | Process & Speed Series

Delivery Horizon	Resource Demand	Industry Scope
Within 2 years	Small to medium project	Cross-cutting – all industry sectors

The Need

Organizations need methods enabling requirements and architecture development to be interleaved rather than sequential, recognizing that requirements developed too far in advance of design become unverifiable. Practitioners need to know which requirements need immediate ambiguity resolution versus which can be deferred safely, how to deliver essential requirements to designers quickly enough to enable parallel trade studies, and how AI tools can assist in requirements checking and quality assurance.

Suggested Deliverable Categories

- Practitioner methodology with learning materials
- Deferability classification method
- AI-assisted requirements checking guidance

Proposed Acceptance Criteria

- Provides a repeatable method for classifying requirements by deferability, not just principles.
- Demonstrates how requirements and architecture development can proceed in parallel through at least one full worked example.
- Includes guidance on AI-assisted requirements checking (must be tool-agnostic).
- Accessible to early-career practitioners without advanced SE training.
- Compatible with model-based requirements workflows.

Proposed Evaluation Priorities

1. Methodological rigor: is the deferability classification defensible?
2. Practitioner accessibility: validated with early-career engineers.
3. AI integration quality: not bolted on, genuinely embedded in the method.
4. Evidence of application in at least one live program context.
5. Compatibility with existing INCOSE requirements guidance.

SE–Program Management Integration: Aligning SE Lead Times with Schedule Planning

CFS-C1-04 | Process & Speed Series

Delivery Horizon	Resource Demand	Industry Scope
Within 2 years	Small to medium project	Cross-cutting – all industry sectors

The Need

Organizations need methods enabling systems engineers and program managers to build shared, realistic project plans that account for SE lead time requirements. Program managers routinely underestimate SE critical path duration; SE leads lack structured tools for negotiating adequate upfront time against delivery pressure. The result is SE being squeezed into documentation mode rather than functioning as a value-generating analytical activity. Organizations need tools and frameworks that work at the SE – PM interface, not just within either discipline.

Suggested Deliverable Categories

- Cross-functional integration framework with planning tools
- SE lead time estimation methods by program type
- Negotiation and escalation protocols

Proposed Acceptance Criteria

- Must address both SE leads and program managers as users, not one at the expense of the other.
- Includes quantitative methods for estimating SE activity lead times by program type.
- Provides escalation and negotiation protocols for when SE time is compressed.
- Validated with input from both SE practitioners and program managers. Applicant must demonstrate this.
- Deployable at the program level without organizational restructuring.

Proposed Evaluation Priorities

1. Dual-audience design: how well does the proposed approach serve both SE leads and program managers?
2. Quantitative rigor of lead time estimation methods.
3. Applicant's demonstrated experience at the SE – PM interface.
4. Practicality without organizational restructuring.
5. Evidence from real programs.

Compressed-Schedule SE: Methods for Delivering SE Value Under Time and Resource Constraints

CFS-C1-05 | Process & Speed Series

Delivery Horizon	Resource Demand	Industry Scope
Within 2 years	Small project	Healthcare, Automotive, Defense, Aerospace

The Need

Organizations need SE methods that deliver tangible analytical value quickly, within hours or days rather than weeks, so that SE activities can inform design decisions before they become irreversible under compressed schedules. This includes rapid application scoping for business development, design-to-cost integration, incremental model value extraction, and supply chain estimation acceleration. Organizations need evidence from sectors beyond aerospace and defense that these methods work.

Suggested Deliverable Categories

- Methods collection with sector-specific case evidence
- Rapid-value SE method library
- Cross-sector worked examples

Proposed Acceptance Criteria

- At least one method must demonstrate value delivery within a single work day.
- Must include healthcare or medical device sector examples, not aerospace/defense only.
- Design-to-cost and supply chain estimation must be explicitly addressed.
- Methods must be applicable without specialist MBSE tooling.
- Applicant must include validation evidence from at least 2 industry contexts.

Proposed Evaluation Priorities

1. Speed of value delivery: how quickly can a practitioner get results?
2. Sector diversity of case evidence.
3. Tool-independence of the methods.
4. Applicant's depth of compressed-schedule delivery experience.
5. Scalability: do quick methods grow into fuller SE practice or dead-end?

Series 2 – Systems Engineering Value & Culture

This series targets the organizational and cultural barriers that prevent systems engineering from delivering its full value, and from being recognized when it does. INCOSE seeks solutions that equip practitioners with evidence-based methods for demonstrating SE ROI to leadership, establishing SE role identity and credibility, and driving the cultural changes that make SE adoption sustainable. Solutions should draw on organizational science, not just SE methodology.

CFS ID	Title	Delivery Horizon	Resource Demand	Industry Scope
CFS-C2-01	Making the Case for SE: Enabling Practitioners to Demonstrate ROI to Leadership	1 year	Small to medium project	Cross-cutting – all industry sectors
CFS-C2-02	Defining What Systems Engineering Is: Role Boundaries, Competency Standards, and Hiring Frameworks	2 years	Small to medium project	Cross-cutting – all industry sectors
CFS-C2-03	Organizational Change for SE Adoption: Silo Reduction, Systems Thinking Culture, and Leadership Enablement	2 years	Medium project	Cross-cutting – large organization focus
CFS-C2-04	SE Success Evidence Base: Documented Cases from Non-Aerospace/Defense Industries	2 years	Medium project	Healthcare, Automotive, Oil and Gas, Government

Making the Case for SE: Enabling Practitioners to Demonstrate ROI to Leadership

CFS-C2-01 | SE Value & Culture Series

Delivery Horizon	Resource Demand	Industry Scope
Within 1 year	Small to medium project	Cross-cutting – all industry sectors

The Need

Systems engineering practitioners consistently lack the resources, language, and evidence needed to convince skeptical executives and leadership to invest adequately in SE activities. Leaders are trained to jump to solutions and do not naturally perceive value in upfront SE analysis. Practitioners need methods that quantify avoided costs, communicate SE benefits at the right abstraction level for executive audiences, and draw on evidence from industries beyond aerospace and defense.

Suggested Deliverable Categories

- Practitioner-facing enabling resources for executive engagement
- ROI quantification framework
- Non-aerospace/defense case evidence library

Proposed Acceptance Criteria

- A practitioner can use the output to prepare a leadership briefing in under 2 hours without external consulting support.
- Includes ROI quantification methods, not just qualitative arguments.
- Includes non-aerospace/defense case evidence; applicant must source at minimum 3 sectors outside aerospace and defense.
- Language and framing are validated with actual executive audiences, not SE practitioners judging what executives want.
- Addresses the 'fires prevented' communication challenge explicitly.

Proposed Evaluation Priorities

1. Evidence of validation with real executive audiences (highest weight).
2. Quality and credibility of ROI quantification methodology.
3. Non-aerospace/defense sector coverage.
4. Speed-to-usefulness: how quickly can a practitioner deploy this?
5. Applicant's experience translating technical value to business language.

Defining What Systems Engineering Is: Role Boundaries, Competency Standards, and Hiring Frameworks

CFS-C2-02 | SE Value & Culture Series

Delivery Horizon	Resource Demand	Industry Scope
Within 2 years	Small to medium project	Cross-cutting – all industry sectors

The Need

Organizations are systematically assigning SE titles to practitioners without genuine SE capabilities, eroding SE credibility and quality. There is no authoritative, INCOSE-endorsed framework organizations can use to define SE role boundaries, distinguish generalist SE from specialist SE roles, establish hiring qualification standards, or prevent fragmentation of SE into requirements-only or modeling-only silos. Organizations need a normative reference that makes SE identity concrete and organizationally actionable.

Suggested Deliverable Categories

- Normative reference framework with organizational adoption tools
- SE role boundary definitions
- Hiring qualification standards

Proposed Acceptance Criteria

- Distinguishes at minimum: generalist SE, requirements engineering, systems architecture, and MBSE specialist as separate role profiles.
- Provides hiring qualification criteria adoptable without legal modification across at least US, EU, and UK employment contexts.
- Aligns with existing INCOSE SEP certification without contradicting it.
- Addresses the title-inflation problem with specific remediation guidance for organizations that have already misclassified practitioners.
- Validated by organizations outside aerospace and defense. Applicant must demonstrate this.

Proposed Evaluation Priorities

1. Normative clarity: are the role distinctions operationally useful?
2. Alignment with INCOSE certification ecosystem.
3. Cross-industry validation beyond aerospace and defense.
4. Adoptability: can an HR department use this without SE expertise?

5. Applicant's experience in SE workforce standards development.

Organizational Change for SE Adoption: Silo Reduction, Systems Thinking Culture, and Leadership Enablement

CFS-C2-03 | SE Value & Culture Series

Delivery Horizon	Resource Demand	Industry Scope
Within 2 years	Medium project	Cross-cutting – large organization focus

The Need

Organizations attempting to adopt or sustain SE practice face consistent cultural and structural barriers: siloed disciplines that resist integration, leadership norms that prioritize action over planning, and systems engineers who bear a disproportionate and unsustainable burden of bridging organizational boundaries. Organizations need change management approaches grounded in organizational theory, not just SE process improvement, that distribute integration responsibility across disciplines and build leadership support for planning-before-execution.

Suggested Deliverable Categories

- Organizational change enablement resource
- Silo reduction strategies for cross-discipline distribution
- Leadership enablement approaches

Proposed Acceptance Criteria

- Grounded in established organizational change theory, not SE process improvements repackaged.
- Explicitly addresses silo reduction as a shared organizational responsibility, not an SE burden.
- Includes leadership-specific enablement approaches separate from practitioner-level guidance.
- Validated in at least one non-engineering organizational change context.

- Applicant must demonstrate credentials in organizational development, not only SE expertise.

Proposed Evaluation Priorities

1. Depth of organizational change theory grounding.
2. Applicant's organizational development credentials alongside SE credentials.
3. Practicality without requiring organizational restructuring.
4. Evidence of success in real SE adoption change programs.
5. Specificity of leadership enablement approach.

SE Success Evidence Base: Documented Cases from Non-Aerospace/Defense Industries

CFS-C2-04 | SE Value & Culture Series

Delivery Horizon	Resource Demand	Industry Scope
Within 2 years	Medium project	Healthcare, Automotive, Oil and Gas, Government

The Need

The body of documented SE success evidence is overwhelmingly concentrated in aerospace and defense, creating a structural barrier to SE adoption in healthcare, automotive, oil and gas, infrastructure, and government sectors. Practitioners in these sectors cannot point to relevant precedents when making the case for SE investment. INCOSE needs an authoritative, peer-reviewed collection of documented SE outcomes from outside aerospace and defense, with sufficient methodological rigor to be credible in board-level conversations.

Suggested Deliverable Categories

- Evidence repository with structured case documentation
- Peer-reviewed SE outcome case studies
- Searchable industry-segmented reference

Proposed Acceptance Criteria

- Minimum 20 documented cases; at minimum 5 each from healthcare, automotive, and one additional non-aerospace/defense sector.
- Each case must document SE approach, investment level, and measurable outcome, not narrative-based success stories.
- Applicant must include a peer review or validation methodology.
- Cases must be searchable and filterable by industry, program size, and SE maturity.
- Delivered in a format deployable by practitioners in leadership briefings.

Proposed Evaluation Priorities

1. Rigor of case documentation methodology. Are outcomes measurable?
2. Non-aerospace/defense sector depth and credibility.
3. Applicant's access to non-aerospace/defense industry networks for case sourcing.
4. Searchability and practitioner usability of proposed delivery format.
5. Peer review or validation approach.

Series 3 – Workforce & Education

This series addresses the SE profession's pipeline problem across its full lifecycle, from attracting students into SE, to bridging the academia-industry gap, to building organizational training programs, to capturing the irreplaceable wisdom of retiring senior practitioners. INCOSE seeks solutions with demonstrated ability to produce lasting workforce development infrastructure, not one-time training events.

CFS ID	Title	Delivery Horizon	Resource Demand	Industry Scope
CFS-C3-01	SE Competency Framework: Defining Capability Levels Across the SE Career Spectrum	2 years	Medium to large project	Cross-cutting – all industry sectors
CFS-C3-02	Academia–Industry SE Collaboration: Bridging the Curriculum-Practice Gap	2 – 3 years	Complete program	Cross-cutting – academic pipeline
CFS-C3-03	Practitioner Knowledge Capture and Mentorship: Preserving SE Wisdom Before It Walks Out the Door	2 years	Medium project	Aerospace, Defense – retirement-wave sectors first
CFS-C3-04	Building Internal SE Training Programs: Organizational Capability Development from the Ground Up	2 years	Medium project	Cross-cutting – all industry sectors

SE Competency Framework: Defining Capability Levels Across the SE Career Spectrum

CFS-C3-01 | Workforce & Education Series

Delivery Horizon	Resource Demand	Industry Scope
Within 2 years	Medium to large project	Cross-cutting – all industry sectors

The Need

Organizations need an authoritative, INCOSE-endorsed framework defining what systems engineering competency looks like at each career level, from entry-level to principal, with explicit distinctions between generalist SE and specialist roles. Without this, organizations cannot assess their role-based capability gaps, design targeted development programs, or make defensible hiring and promotion decisions. The framework must address the practitioner-to-true-SE-engineer development pathway, not just describe end-state competency.

Suggested Deliverable Categories

- Role-specific competency framework with assessment tooling
- Career level profiles from entry to principal
- Self-assessment tools for individuals and organizations

Proposed Acceptance Criteria

- Covers minimum 4 career levels with distinct, non-overlapping competency profiles at each level.
- Explicitly addresses the requirements-engineer-to-systems-engineer transition pathway.
- Aligns with and extends existing INCOSE SEP certification (no contradictions).
- Includes self-assessment tools usable by individuals without a supervisor or HR intermediary.
- Validated by organizations across at least 3 industry sectors.

Proposed Evaluation Priorities

1. Clarity and operationality of career level distinctions.
2. Alignment with INCOSE SEP certification pathway.
3. Quality and usability of self-assessment tooling.
4. Cross-industry validation breadth.

5. Applicant's demonstrated competency framework development experience.

Academia–Industry SE Collaboration: Bridging the Curriculum-Practice Gap

CFS-C3-02 | Workforce & Education Series

Delivery Horizon	Resource Demand	Industry Scope
2 to 3 years	Complete program	Cross-cutting – academic pipeline

The Need

Academic institutions lack structured, reliable mechanisms for receiving industry input on SE curriculum design, and industry organizations lack efficient pathways for engaging students on real problems. The result is graduates who are theoretically trained but operationally unprepared, and an industry that must spend significant time and resources remedially developing early-career hires. Both parties need a repeatable collaboration model that creates mutual value, not one-off engagements.

Suggested Deliverable Categories

- Reusable partnership model with implementation support
- Industry-to-curriculum feedback loop protocol
- Pilot program design for partnering institutions

Proposed Acceptance Criteria

- Applicant must demonstrate existing relationships with at minimum 5 academic institutions and 3 industry sponsors.
- The collaboration model must be replicable by INCOSE chapters without central INCOSE facilitation after initial deployment.
- Includes a continuous feedback loop mechanism beyond periodic curriculum updates.
- Addresses both technical SE curriculum content and hands-on project integration.
- Pilot program must include at least one non-aerospace/defense industry sponsor.

Proposed Evaluation Priorities

1. Strength of existing academic and industry relationships the applicant brings.
2. Scalability: can chapters run this independently?
3. Sustainability of the feedback loop mechanism.
4. Non-aerospace/defense industry sponsor inclusion.
5. Applicant's prior experience in academia-industry bridge programs.

Practitioner Knowledge Capture and Mentorship: Preserving SE Wisdom Before It Walks Out the Door

CFS-C3-03 | Workforce & Education Series

Delivery Horizon	Resource Demand	Industry Scope
Within 2 years	Medium project	Aerospace, Defense – retirement-wave sectors first

The Need

Organizations face an irreversible, time-sensitive loss of tacit SE knowledge as experienced practitioners retire or leave. The distinction between knowledge and wisdom, accumulated decision-making judgment from lived experience, is not addressed by standard knowledge management approaches. Organizations need structured methods for capturing this wisdom and transferring it to early-career engineers before it is permanently lost. The window to act is closing as retirement waves accelerate in aerospace and defense.

Suggested Deliverable Categories

- Knowledge capture methodology and mentorship program framework
- Wisdom elicitation and transfer methods
- Chapter-deployable mentorship pairing model

Proposed Acceptance Criteria

- Explicitly addresses wisdom (decision judgment) capture methods, beyond explicit knowledge documentation.
- Knowledge capture methods must be lightweight enough for practitioners to use without dedicated facilitators after initial training.
- Mentorship pairing model must address the MBSE-SE generational divide, senior SE paired with junior MBSE-trained engineers, not only linear senior-to-junior SE.
- Deployable at INCOSE chapter level.
- Applicant must provide evidence the approach works in time-constrained organizational environments.

Proposed Evaluation Priorities

1. Theoretical grounding in knowledge-versus-wisdom distinction.
2. Lightweight-ness: can organizations deploy without dedicated resources?
3. Evidence of effectiveness in similar practitioner communities.
4. Quality of MBSE-SE generational bridge approach.
5. Chapter-level scalability.

Building Internal SE Training Programs: Organizational Capability Development from the Ground Up

CFS-C3-04 | Workforce & Education Series

Delivery Horizon	Resource Demand	Industry Scope
Within 2 years	Medium project	Cross-cutting – all industry sectors

The Need

Organizations that recognize their SE capability gaps frequently lack the internal expertise to design and deploy effective SE training programs. They need structured guidance enabling them to build SE learning pathways tailored to different role types, not a generic SE course, but role-differentiated training for discipline engineers, program managers,

and SE practitioners at different career levels. Organizations also need approaches for building genuine systems-thinking culture, not just systems engineering awareness.

Suggested Deliverable Categories

- Organizational capability development guide
- Role-differentiated learning pathway templates
- Hands-on exercise library

Proposed Acceptance Criteria

- Addresses minimum 3 distinct learner role types with differentiated pathways.
- Includes hands-on exercise library beyond lecture-only curriculum.
- Addresses systems-thinking culture embedding, not just process training.
- Deployable by an organization without prior SE training design expertise.
- Applicant must validate approach with at least one organization that built a training program from scratch using this guidance.

Proposed Evaluation Priorities

1. Role differentiation: are the pathways genuinely distinct or cosmetically different?
2. Hands-on content depth and quality.
3. Culture-building versus awareness-building distinction.
4. Deployability without SE training design expertise.
5. Evidence from organizations that used it.

Series 4 – Digital Engineering

This series addresses the gap between the promise of model-based and digital engineering and the organizational reality of most programs. INCOSE seeks solutions grounded in honest assessment of why MBSE implementations fail. Solutions should treat MBSE adoption as an organizational transformation problem, not a tooling problem and not how to implement MBSE under ideal conditions.

CFS ID	Title	Delivery Horizon	Resource Demand	Industry Scope
CFS-C4-01	MBSE Organizational Adoption: Planning, Infrastructure, and Avoiding the Failure Patterns	2 – 3 years	Large program	Aerospace, Defense, Automotive
CFS-C4-02	Model-Based Requirements: Linking Requirements to Architecture While Satisfying Contractual Documentation	2 years	Medium project	Cross-cutting – all industry sectors
CFS-C4-03	MBSE for Legacy Programs: Knowledge Capture Before the Expertise Retires	2 years	Small to medium project	Aerospace, Defense

MBSE Organizational Adoption: Planning, Infrastructure, and Avoiding the Failure Patterns

CFS-C4-01 | Digital Engineering Series

Delivery Horizon	Resource Demand	Industry Scope
2 to 3 years	Large program	Aerospace, Defense, Automotive

The Need

Organizations attempting MBSE adoption at scale consistently fail due to inadequate organizational readiness planning, insufficient IT infrastructure preparation, and MBSE implementations that focus on model artifacts rather than model-based thinking and decision-making. They need phased adoption guidance that treats MBSE as an organizational transformation, not a tool installation. This includes management buy-in strategies, training integration, and explicit documentation of the failure patterns that doom most implementations.

Suggested Deliverable Categories

- Organizational adoption enablement framework
- Phased readiness and implementation milestones
- IT infrastructure planning guidance

Proposed Acceptance Criteria

- Explicitly distinguishes model-based thinking (success pattern) from model-as-documentation (failure pattern), this distinction must be central, not a footnote.
- Includes IT and infrastructure planning guidance with concrete requirements for software, personnel, and data architecture.
- Documents at minimum 6 adoption failure patterns with root cause analysis.
- Addresses management buy-in as a first-order problem, not an afterthought.
- Validated through at least one full-cycle MBSE adoption program.

Proposed Evaluation Priorities

1. Failure pattern documentation depth: applicant's honest account of what goes wrong (highest weight).
2. Organizational readiness rigor versus tool-first bias.
3. Infrastructure planning specificity.
4. Applicant's direct experience leading MBSE adoption programs.

5. Management buy-in approach credibility.

Model-Based Requirements: Linking Requirements to Architecture While Satisfying Contractual Documentation

CFS-C4-02 | Digital Engineering Series

Delivery Horizon	Resource Demand	Industry Scope
Within 2 years	Medium project	Cross-cutting – all industry sectors

The Need

Organizations need to maintain requirements as digitally-encoded model elements that leverage model-based integration while simultaneously satisfying contractual textual requirements obligations. Practitioners do not know how to interleave requirements and architecture development in a model-based context, or how to use AI tools to assist in requirements quality checking. SysMLv2 creates new migration questions that are currently unanswered for most organizations.

Suggested Deliverable Categories

- Methodology guidance with implementation support materials
- Contractual documentation generation from model elements
- SysMLv2 migration pathway guidance

Proposed Acceptance Criteria

- Addresses the contractual textual requirements obligation explicitly (model-based alone is insufficient for most programs).
- Includes SysMLv2 migration pathway guidance.
- AI-assisted requirements checking must be tool-agnostic, that is, not tied to a single commercial product.
- Applicant must demonstrate tool-vendor neutrality.
- Includes at least one full worked example from requirements capture through contractual documentation generation.

Proposed Evaluation Priorities

1. Tool-vendor neutrality: any commercial bias disqualifies.
2. Contractual documentation bridge: how elegantly does it solve both needs?
3. SysMLv2 migration guidance quality.
4. AI integration depth and tool-agnosticism.
5. Worked example completeness.

MBSE for Legacy Programs: Knowledge Capture Before the Expertise Retires

CFS-C4-03 | Digital Engineering Series

Delivery Horizon	Resource Demand	Industry Scope
Within 2 years	Small to medium project	Aerospace, Defense

The Need

The dominant assumption in the SE community, that MBSE should only be applied to new development programs, leaves a critical knowledge preservation problem unaddressed: decades of tacit system knowledge held by retiring practitioners is not being formalized before it is lost. Organizations need methods and justification frameworks for applying MBSE to existing programs specifically for knowledge capture purposes, and a business case approach for securing leadership investment in this non-traditional MBSE application.

Suggested Deliverable Categories

- Methodology with business case frameworks
- Legacy knowledge capture methods using MBSE
- ROI arguments for leadership investment

Proposed Acceptance Criteria

- Must directly challenge and address the ‘MBSE for new programs only’ consensus.

- Business case framework must include ROI arguments leadership will find credible and have been validated with program managers.
- Knowledge capture methods must be lightweight enough for use in time-constrained environments where subject matter expert availability is limited.
- Applicant must demonstrate prior application to at least one legacy program.
- Addresses the integration of captured knowledge into active digital engineering environments.

Proposed Evaluation Priorities

1. Applicant's evidence of successful legacy MBSE application.
2. Business case credibility with non-SE leadership audiences.
3. Lightweight-ness of knowledge capture methods.
4. Intellectual courage in challenging the new-programs-only consensus.
5. Integration pathway with active digital engineering environments.

Series 5 – Tools & Digital Practice

This series addresses the gap between the SE tool capabilities that exist and the SE tool capabilities that organizations actually realize in practice. INCOSE seeks solutions that go beyond tool promotion to address the structural reasons adoption fails: usability barriers, IT governance conflicts, fragmented ecosystems, and the challenge of communicating model results to non-SE stakeholders. Applicants should be willing to challenge tool vendors, not just enable them.

CFS ID	Title	Delivery Horizon	Resource Demand	Industry Scope
CFS-C5-01	Cross-Vendor SE Tool Interoperability: Enabling SE Functions Across Fragmented Tool Ecosystems	2 – 4 years	Large program – consortium required	Cross-cutting – all industry sectors
CFS-C5-02	AI in SE Practice: Use Cases, Native Integration Patterns, and Quality Governance	2 years	Medium to large project	Cross-cutting – all industry sectors
CFS-C5-03	Lowering SE Tool Adoption Barriers: Usability Standards and Accelerated Learning Pathways	2 years	Medium project	Cross-cutting – all industry sectors
CFS-C5-04	Federated SE Tool Ecosystem Management: SE Methods That Work When a Unified Platform Is Impossible	2 – 3 years	Large project	Large enterprise, Defense, Aerospace
CFS-C5-05	Communicating SE Model Results to Non-SE Stakeholders: Abstraction, Audience, and Accessibility	2 years	Small to medium project	Cross-cutting – all industry sectors

Cross-Vendor SE Tool Interoperability: Enabling SE Functions Across Fragmented Tool Ecosystems

CFS-C5-01 | Tools & Digital Practice Series

Delivery Horizon	Resource Demand	Industry Scope
2 to 4 years	Large program – consortium required	Cross-cutting – all industry sectors

The Need

Organizations cannot currently execute SE functions, such as, verification, validation, traceability, or impact analysis, across artifacts stored in tools from different vendors without extensive custom integration work. This fragmentation means a large portion of time is spent on documentation and information presentation rather than analysis. Organizations need a vendor-neutral interoperability standard that allows SE workflows to operate across tool boundaries, and a governance model that keeps it current as tool ecosystems evolve.

Suggested Deliverable Categories

- Technical standard with conformance program
- Cross-vendor SE function execution specification
- Governance model for standards maintenance

Proposed Acceptance Criteria

- Applicant must demonstrate commitment from at minimum 3 major SE tool vendors to participate in standard development.
- Standard must enable SE functions (not just data exchange) across tool boundaries. Note: data exchange alone is insufficient.
- Governance model must include a path to formal ISO or IEEE standardization.
- Includes a conformance or certification program enabling organizations to evaluate tool compliance.
- Applicant must address the federated-tool reality – unified platforms are not a realistic assumption.

Proposed Evaluation Priorities

1. Depth and credibility of tool vendor commitments (highest weight).
2. SE-function scope versus data-exchange-only applications.
3. Governance and path-to-formal-standard credibility.

4. Applicant's standards development experience in ISO/IEEE processes.
5. Realism about federated-tool constraints.

AI in SE Practice: Use Cases, Native Integration Patterns, and Quality Governance

CFS-C5-02 | Tools & Digital Practice Series

Delivery Horizon	Resource Demand	Industry Scope
Within 2 years	Medium to large project	Cross-cutting – all industry sectors

The Need

Organizations are failing to leverage AI capabilities embedded in SE tools and are uncertain how to govern AI-assisted SE outputs for quality and auditability. There is no authoritative INCOSE guidance on where AI adds genuine value in SE workflows, how to integrate AI natively rather than as a post-hoc addition, or what governance and quality standards should apply to AI-assisted requirements, architecture, and verification work. INCOSE has a narrow window to establish authoritative guidance before the space fragments into competing vendor narratives.

Suggested Deliverable Categories

- Use case library with governance framework
- SE-activity-organized AI use case library
- Native integration pattern guidance and anti-patterns

Proposed Acceptance Criteria

- Use cases must be organized by SE activity, requirements, architecture, verification and validation, decision analysis, not by AI technique/tools.
- Native integration patterns must be distinguished from post-hoc bolt-on patterns, with explicit anti-patterns documented.
- Governance framework must address auditability and human accountability for AI-assisted outputs beyond quality checking.
- Tool-agnostic: applicant must demonstrate no commercial AI vendor bias.

- Must address portfolio-scale AI application (systems-of-systems and program-of-record level), not only individual project SE.

Proposed Evaluation Priorities

1. Organization of use cases by SE activity.
2. Governance and auditability depth.
3. Tool-vendor neutrality.
4. Portfolio-scale coverage.
5. Applicant's demonstrated AI-in-SE application experience.

Lowering SE Tool Adoption Barriers: Usability Standards and Accelerated Learning Pathways

CFS-C5-03 | Tools & Digital Practice Series

Delivery Horizon	Resource Demand	Industry Scope
Within 2 years	Medium project	Cross-cutting – all industry sectors

The Need

Large investments in SE tool capability are being systematically wasted because adoption fails at the user and organizational level and not the technical level. Practitioners with diverse backgrounds and limited SE experience (5 years or less) experience significant tool adoption challenges. IT governance conflicts block tool deployment. Learning curves are too steep for broad organizational adoption. Organizations need both design standards that tool vendors can be held to, and adoption methods that work with heterogeneous, experience-limited teams.

Suggested Deliverable Categories

- Usability standards with adoption methodology
- SE tool usability design standards for vendors
- Adoption methodology for heterogeneous teams

Proposed Acceptance Criteria

- Usability standards must be specific enough to be used as procurement evaluation criteria.
- Addresses IT governance conflicts as a first-order adoption barrier, not an edge case.
- Adoption methodology must be validated with teams that have 5 years or less SE experience.
- Free or low-cost experimentation pathways must be addressed.
- Applicant must demonstrate engagement from at least 2 SE tool vendors willing to evaluate against proposed standards.

Proposed Evaluation Priorities

1. Specificity of usability standards as procurement criteria.
2. IT governance conflict resolution depth.
3. Validation with low-experience user populations.
4. Tool vendor engagement.
5. Evidence from organizations that successfully used the adoption methodology.

Federated SE Tool Ecosystem Management: SE Methods That Work When a Unified Platform Is Impossible

CFS-C5-04 | Tools & Digital Practice Series

Delivery Horizon	Resource Demand	Industry Scope
2 to 3 years	Large project	Large enterprise, Defense, Aerospace

The Need

Organizations operating within federated tool ecosystems, where IT governance, vendor lock-in concerns, and data sovereignty prevent adoption of a single authoritative platform, need SE methods designed for this reality rather than methods that assume platform unification. They need practical strategies for maintaining digital thread continuity,

managing common data models across federated tools, and migrating incrementally from legacy siloed tools without disrupting ongoing program delivery.

Suggested Deliverable Categories

- Ecosystem management methods with migration patterns
- SE methods for federated tool environments
- Digital thread continuity strategies

Proposed Acceptance Criteria

- Must explicitly accept federated tool ecosystems as a permanent condition. Unified platform migration is not an acceptable proposed solution.
- Addresses digital thread continuity in federated environments with concrete methods.
- Migration patterns from legacy tools must assume ongoing program delivery cannot be interrupted.
- Common data model requirements must be tool-agnostic and standards-based.
- Validated in at least one large enterprise federated environment.

Proposed Evaluation Priorities

1. Philosophical alignment: does the applicant genuinely accept federated permanence or are they recommending unification by another name?
2. Digital thread continuity method quality.
3. Interruption-free migration pattern credibility.
4. Standards-based data model approach.
5. Large enterprise experience.

Communicating SE Model Results to Non-SE Stakeholders: Abstraction, Audience, and Accessibility

CFS-C5-05 | Tools & Digital Practice Series

Delivery Horizon	Resource Demand	Industry Scope
Within 2 years	Small to medium project	Cross-cutting – all industry sectors

The Need

Systems engineers consistently struggle to communicate model outputs and SE insights to executives, program managers, and discipline engineers at appropriate abstraction levels. The problem is not technical, models are often excellent, but communicative: practitioners default to showing all detail, losing non-SE audiences who need high-level summaries. SE tools are also designed for SE practitioners, not for the broader stakeholder community that consumes SE outputs. Organizations need methods and enabling resources that solve the SE-to-stakeholder translation problem.

Suggested Deliverable Categories

- Communication methods and enabling materials
- Audience-segmented communication frameworks
- Real-time abstraction adjustment methods

Proposed Acceptance Criteria

- Addresses minimum 3 distinct audience types with differentiated approaches.
- Includes methods for real-time abstraction adjustment.
- Validated with non-SE stakeholders.
- Addresses tool interface design principles for non-SE consumers of SE outputs.
- Applicant must demonstrate experience in technical communication, not only SE.

Proposed Evaluation Priorities

1. Validation with real non-SE stakeholders.
2. Real-time abstraction capability versus static format approaches.
3. Applicant's technical communication credentials alongside SE credentials.
4. Audience differentiation quality.
5. Tool interface design depth.

Series 6 – Knowledge & Standards

This series addresses INCOSE's core stewardship responsibility for SE knowledge products, standards, and authoritative references. INCOSE seeks solutions that modernize the SE knowledge base: making it more domain-specific, more visually accessible, and better aligned with how systems engineering is actually practiced today. Solutions should honestly confront gaps in existing INCOSE guidance rather than building on them uncritically.

CFS ID	Title	Delivery Horizon	Resource Demand	Industry Scope
CFS-C6-01	Domain-Specific SE Handbook Addenda: Making INCOSE Guidance Relevant Across Industries	2 years	Medium to large project	Defense, Aerospace, Healthcare, Automotive, Oil and Gas
CFS-C6-02	SE Lifecycle Model Representations: Alternatives to the Sequential V-Model Perception	2 years	Small to medium project	Cross-cutting – all industry sectors
CFS-C6-03	SE Vision Update: Integrating the Disruptions the Previous Vision Missed	2 years	Medium project	Cross-cutting – strategic
CFS-C6-04	Interface Management Guidance: Resolving Architecture-to-Discipline Boundary Ambiguity	2 years	Small to medium project	Aerospace, Defense, large complex programs
CFS-C6-05	SE for Decision-Makers: Short-Format Authoritative Guidance for Executives and Non-SE Leaders	1 year	Small project	Cross-cutting – all industry sectors

Domain-Specific SE Handbook Addenda: Making INCOSE Guidance Relevant Across Industries

CFS-C6-01 | Knowledge & Standards Series

Delivery Horizon	Resource Demand	Industry Scope
Within 2 years	Medium to large project	Defense, Aerospace, Healthcare, Automotive, Oil and Gas

The Need

Non-aerospace/defense organizations consistently find that INCOSE's flagship guidance products, particularly the SE Handbook, lack sector-specific applicability. Domain-specific regulatory constraints, terminology, and precedent cases are absent, forcing practitioners to perform translation work that INCOSE could do once authoritatively. Organizations in healthcare, automotive, oil and gas, and defense need sector-specific SE guidance they can use without extensive cross-domain interpretation.

Suggested Deliverable Categories

- Domain-specific addenda series to the SE Handbook
- Sector-specific regulatory mapping and terminology bridges
- Domain-relevant worked examples

Proposed Acceptance Criteria

- Each domain addendum must stand alone as a usable reference and not require the main handbook to extract value.
- Healthcare and medical device must be addressed. Highest unmet need outside aerospace/defense.
- Domain-specific regulatory mappings must be current at time of publication.
- Applicant must demonstrate domain subject matter expert credentials.
- Terminology must align with domain usage, not impose INCOSE terminology on practitioners who use different language.

Proposed Evaluation Priorities

1. Domain subject matter expert credentials per sector covered.
2. Healthcare and medical device depth.
3. Regulatory currency and accuracy.
4. Standalone usability per addendum.
5. Terminology bridging quality.

SE Lifecycle Model Representations: Alternatives to the Sequential V-Model Perception

CFS-C6-02 | Knowledge & Standards Series

Delivery Horizon	Resource Demand	Industry Scope
Within 2 years	Small to medium project	Cross-cutting – all industry sectors

The Need

The V-model, despite being defined in ISO/IEC 15288 as a relational, not temporal, model, is systematically misinterpreted by practitioners as a sequential process, reinforcing waterfall thinking. INCOSE needs alternative lifecycle model representations that are visually and conceptually clear about concurrency and iteration, consistent with ISO 15288 outcomes, and practical enough to be adopted in training programs, university curricula, and organizational SE manuals. The problem is representational, not standards-substantive.

Suggested Deliverable Categories

- Visual model library with standards alignment guidance
- Concurrent and iterative lifecycle representations
- Relational-versus-temporal distinction guidance

Proposed Acceptance Criteria

- Proposed representations must not contradict ISO/IEC 15288 process outcomes.
- Must include representations for concurrent, iterative, and agile-hybrid development contexts.
- Validated with both practitioners and university educators.
- Must be freely redistributable by INCOSE members for training use.
- Includes guidance explaining the relational-versus-temporal distinction to practitioners unfamiliar with the ISO 15288 intent.

Proposed Evaluation Priorities

1. Visual clarity and intuitive correctness of proposed representations.
2. ISO/IEC 15288 alignment rigor.
3. Validation with university educators.
4. Coverage of agile-hybrid contexts.
5. Applicant's visual communication and standards expertise.

SE Vision Update: Integrating the Disruptions the Previous Vision Missed

CFS-C6-03 | Knowledge & Standards Series

Delivery Horizon	Resource Demand	Industry Scope
Within 2 years	Medium project	Cross-cutting – strategic

The Need

INCOSE's SE Vision document did not anticipate several disruptions now reshaping SE practice, including AI and machine learning integration, the dominance of agile in software-rich systems, Human Systems Integration, Loss-Driven SE, and the growing importance of Decision Analysis as a core SE method. An outdated vision document signals organizational stagnation and erodes INCOSE's credibility as the authoritative voice of the profession. The update must honestly address the forecasting failures of the original, not just append new content.

Suggested Deliverable Categories

- Strategic vision document with supporting research agenda
- Honest assessment of prior vision gaps
- SE fundamental limits research agenda

Proposed Acceptance Criteria

- Must explicitly analyze and acknowledge what the previous SE Vision missed.
- Includes AI and machine learning, Loss-Driven SE, Human Systems Integration, Decision Analysis, and Systems Security as substantive content.
- Includes a SE fundamental limits research agenda with specific, investigable research questions.
- Validated through broad INCOSE membership input.
- Applicant must demonstrate access to SE research community beyond INCOSE.

Proposed Evaluation Priorities

1. Intellectual honesty about prior vision gaps.
2. Substantive depth on AI and emerging methodology integration.
3. Research agenda specificity.
4. Breadth of validation methodology.
5. Applicant's access to non-INCOSE SE research networks.

Interface Management Guidance: Resolving Architecture-to-Discipline Boundary Ambiguity

CFS-C6-04 | Knowledge & Standards Series

Delivery Horizon	Resource Demand	Industry Scope
Within 2 years	Small to medium project	Aerospace, Defense, large complex programs

The Need

Organizations lack authoritative guidance defining what belongs in system architecture versus discipline-specific design artifacts, and who is responsible for interface content at each level of decomposition. This ambiguity leads to integration surprises, post-Critical Design Review baseline changes, and coordination failures between system architects and software, electrical, and mechanical discipline leads. For complex programs and systems-of-systems, the problem scales beyond simple guidance. Organizations need methods that manage complexity at the interface level, not just define it.

Suggested Deliverable Categories

- Guidance with role-responsibility frameworks and complexity methods
- Artifact content boundary decision rules
- Systems-of-systems interface governance

Proposed Acceptance Criteria

- Provides explicit artifact content boundaries and the decision rules for what belongs where.
- Addresses systems-of-systems interface governance at portfolio level.
- Includes soft systems methods (Viable System Model, Soft Systems Methodology) for complex social-technical interfaces.
- Role-responsibility framework must be adoptable without restructuring.
- Validated on programs with actual post-Critical Design Review change data. Applicant must demonstrate access to real program evidence.

Proposed Evaluation Priorities

1. Decision-rule specificity versus principles-only approaches.
2. Systems-of-systems portfolio-level coverage.
3. Soft systems method integration.
4. Evidence base from real programs with integration failure data.

5. Applicant's large complex program experience.

SE for Decision-Makers: Short-Format Authoritative Guidance for Executives and Non-SE Leaders

CFS-C6-05 | Knowledge & Standards Series

Delivery Horizon	Resource Demand	Industry Scope
Within 1 year	Small project	Cross-cutting – all industry sectors

The Need

Executives and senior decision-makers who influence SE investment and adoption cannot be expected to consume 500-page handbooks. They need accurate, authoritative, INCOSE-endorsed guidance products sized and designed for their reading habits and decision contexts. Currently, SE practitioners must improvise executive-facing materials from sources not designed for executive use. INCOSE is missing a significant market for credible, short-form SE guidance targeted at organizational leadership.

Suggested Deliverable Categories

- Short-format guidance series for executive and leadership audiences
- Executive briefing products on SE value and architecture-first thinking
- Professionally designed boardroom-ready materials

Proposed Acceptance Criteria

- No single product in the series may exceed 20 pages or 16 slides.
- Must be validated with executives (not SE practitioners evaluating whether executives would find it useful).
- Professional graphic design quality that is boardroom-deployable.
- Freely redistributable by INCOSE members without per-use approval.
- Includes architecture-first framing for executives.

Proposed Evaluation Priorities

1. Validation with real executive audiences.
2. Design quality and visual professionalism.
3. Length discipline: shorter with higher insight density wins.
4. Applicant's executive communication experience.
5. Architecture-first framing quality.

Series 7 – Member Services & Partnerships

This series addresses INCOSE's organizational infrastructure: the membership experience, resource accessibility, IP governance, and external partnerships that determine whether INCOSE can deliver on its mission at scale. INCOSE seeks commitments that produce tangible, near-term improvements to how members access and use INCOSE's existing value, and that extend INCOSE's influence through coordinated relationships with peer professional organizations.

CFS ID	Title	Delivery Horizon	Resource Demand	Industry Scope
CFS-C7-01	INCOSE IP and Licensing Reform: Removing Barriers to Internal Member Use of INCOSE Content	1 year	Single to small set of actions	Cross-cutting – all CAB member organizations
CFS-C7-02	INCOSE Knowledge Portal: Resource Discovery, Curated Access, and Member Notification	2 years	Medium project	Cross-cutting – all INCOSE members
CFS-C7-03	INCOSE Strategic Partnership Architecture: Formalizing Relationships with Peer Organizations	2 years	Set of coordinated actions	Cross-cutting – defense focus for restricted subgroups
CFS-C7-04	Affordable Enterprise Access to Foundational SE Standards: Licensing for ISO/IEC 15288 and SEBOK	1 year	Set of coordinated actions	Cross-cutting – large organizations

Institutional Commitments

The twenty-six Calls for Solutions in the preceding pages are open invitations. They define problems, set Proposed Acceptance Criteria, and ask the systems engineering community to propose solutions. Any qualified team can apply.

But not every need the CAB raised is the community's to solve. Some of what organizations asked for – changes to INCOSE's licensing terms, improvements to how members discover and access INCOSE resources, stronger partnerships with peer organizations – require

INCOSE itself to act. These are not gaps that a project team can close from the outside. They are institutional responsibilities.

INCOSE chose not to set those needs aside. The four items that follow are structured with the same rigor as every open Call for Solutions: a defined need, Proposed Acceptance Criteria, Proposed Evaluation Priorities, and a delivery horizon. They are published here so that the organizations who raised them can see that their input led to specific, trackable commitments – and can hold INCOSE accountable for delivering on them.

INCOSE IP and Licensing Reform: Removing Barriers to Internal Member Use of INCOSE Content

CFS-C7-01 | Member Services & Partnerships Series

Delivery Horizon	Resource Demand	Industry Scope
Within 1 year	Single to small set of actions	Cross-cutting – all CAB member organizations

The Need

CAB member organizations are currently prevented from using INCOSE-copyrighted content for internal employee training without submitting individual approval requests for each publication. This creates an administrative burden that discourages internal use of INCOSE materials, materials that member organizations helped fund. Members need clarity on what INCOSE controls versus what Wiley controls, and a licensing framework that enables enterprise use without per-publication permission cycles.

Suggested Deliverable Categories

- Policy reform with enterprise licensing framework
- INCOSE-versus-Wiley content delineation
- Enterprise license agreement templates

Proposed Acceptance Criteria

- Clearly delineates INCOSE-controlled versus Wiley-controlled content in a form organizations can act on without legal interpretation.
- Provides enterprise license agreement templates requiring no legal modification for standard use cases.
- Covers derivative training materials for internal employee use.
- Eliminates per-publication approval cycle for qualifying member organizations.
- Does not inadvertently extend commercial redistribution rights. Internal use only must be clearly bounded.

Proposed Evaluation Priorities

1. Legal clarity and actionability: can an organization's legal team approve this without extensive negotiation?
2. Scope clarity: internal use versus commercial redistribution boundary.
3. Template usability without modification.
4. The responsible party's IP and licensing legal expertise.

5. Speed of implementation: this should be achievable quickly.

INCOSE Knowledge Portal: Resource Discovery, Curated Access, and Member Notification

CFS-C7-02 | Member Services & Partnerships Series

Delivery Horizon	Resource Demand	Industry Scope
Within 2 years	Medium project	Cross-cutting – all INCOSE members

The Need

INCOSE members consistently report difficulty finding relevant resources within INCOSE's offerings, are not notified when working groups release products, and lack access to a curated, easily navigable library of SE books, videos, and tools. Existing products are underutilized not because they lack quality but because they are undiscoverable. Members need a resource ecosystem designed around how they actually search for and consume SE knowledge and not how INCOSE organizes its working groups.

Suggested Deliverable Categories

- Platform and curation system redesign
- Faceted discovery by topic, lifecycle phase, domain, and format
- Proactive notification system for working group releases

Proposed Acceptance Criteria

- Search and discovery must be faceted by topic, lifecycle phase, domain, format, and audience – not just keyword search.
- Proactive notification system for working group releases must be opt-in and configurable by member interest areas.
- Curated reading list must include non-SysML tools contributed by members.
- The commitment must conduct user research with actual INCOSE members.
- Must be maintainable by INCOSE staff without ongoing developer dependency.

Proposed Evaluation Priorities

1. Evidence of genuine user research in proposed design.
2. Faceted discovery quality versus keyword-only search.
3. Notification system configurability.
4. Staff maintainability without developer dependency.
5. The responsible party's UX and knowledge management experience.

INCOSE Strategic Partnership Architecture: Formalizing Relationships with Peer Organizations

CFS-C7-03 | Member Services & Partnerships Series

Delivery Horizon	Resource Demand	Industry Scope
Within 2 years	Set of coordinated actions	Cross-cutting – defense focus for restricted subgroups

The Need

INCOSE currently lacks formal, structured partnership agreements with key peer organizations, NDIA, OMG, IEEE, SAE, and national engineering academies, that would enable coordinated SE advancement and expand INCOSE's influence in standards bodies, defense industry, and international markets. Working in isolation limits INCOSE's impact and credibility. Additionally, INCOSE lacks the governance infrastructure to support restricted subgroups capable of discussing ITAR or proprietary content at chapter and working group level.

Suggested Deliverable Categories

- Partnership framework with governance infrastructure
- Formal MOU templates for peer organizations
- Restricted subgroup infrastructure for ITAR-sensitive content

Proposed Acceptance Criteria

- MOU templates must be specific enough to govern joint working group activities.

- Restricted subgroup infrastructure must meet ITAR compliance requirements.
- SAE S-18 aerospace standards participation pathway must be specifically addressed.
- Partnership model must include a value exchange framework.
- The commitment must demonstrate prior experience establishing inter-organizational technical governance agreements.

Proposed Evaluation Priorities

1. MOU specificity and enforceability.
2. ITAR compliance rigor for restricted subgroup infrastructure.
3. Value exchange framework balance.
4. The responsible party's inter-organizational governance experience.
5. SAE S-18 participation pathway specificity.

Affordable Enterprise Access to Foundational SE Standards: Licensing for ISO/IEC 15288 and SEBOK

CFS-C7-04 | Member Services & Partnerships Series

Delivery Horizon	Resource Demand	Industry Scope
Within 1 year	Set of coordinated actions	Cross-cutting – large organizations

The Need

The per-individual purchase requirement for ISO/IEC/IEEE 15288 and related foundational SE standards creates a barrier that prevents large organizations from ensuring all relevant employees have reference access. Organizations responsible for establishing SE practice cannot make the foundational standards universally accessible without prohibitive cost. INCOSE is uniquely positioned to negotiate enterprise licensing pathways with IEEE and ISO given its role as the primary professional body for SE.

Suggested Deliverable Categories

- Licensing program with standards body coordination

- Scalable enterprise license tiers
- SEBOK tailoring guidance by risk level

Proposed Acceptance Criteria

- The commitment must demonstrate a specific negotiation pathway with IEEE and ISO.
- Enterprise license tiers must be scalable across organization sizes from small businesses to large enterprises.
- SEBOK tailoring guidance must include explicit best-value recommendations by risk level.
- Free community access tier for individual practitioners must be addressed.
- Implementation timeline must be achievable within INCOSE's existing standards body relationships.

Proposed Evaluation Priorities

1. Specificity and credibility of IEEE and ISO negotiation pathway.
2. Scalability of proposed license tiers.
3. SEBOK tailoring guidance quality.
4. Community access tier design.
5. The responsible party's standards body negotiation experience.

Appendix A: Traceability Index

Table A: CFS-to-Cluster Traceability

Each Call for Solutions traces back to specific needs raised at the January 2026 International Workshop. The "Needs Addressed" count reflects the total number of raw needs within each CFS's scope.

CFS ID	Title	Series	Needs Addressed
CFS-C1-01	Risk-Informed SE Process Tailoring	Process & Speed	12
CFS-C1-02	Agile SE for Cyber-Physical Systems	Process & Speed	8
CFS-C1-03	Minimum Viable Requirements	Process & Speed	9
CFS-C1-04	SE–Program Management Integration	Process & Speed	10
CFS-C1-05	Compressed-Schedule SE	Process & Speed	8
CFS-C2-01	Making the Case for SE	SE Value & Culture	10
CFS-C2-02	Defining What Systems Engineering Is	SE Value & Culture	9
CFS-C2-03	Organizational Change for SE Adoption	SE Value & Culture	9
CFS-C2-04	SE Success Evidence Base	SE Value & Culture	8

CFS-C3-01	SE Competency Framework	Workforce & Education	9
CFS-C3-02	Academia–Industry SE Collaboration	Workforce & Education	7
CFS-C3-03	Practitioner Knowledge Capture and Mentorship	Workforce & Education	8
CFS-C3-04	Building Internal SE Training Programs	Workforce & Education	8
CFS-C4-01	MBSE Organizational Adoption	Digital Engineering	9
CFS-C4-02	Model-Based Requirements	Digital Engineering	8
CFS-C4-03	MBSE for Legacy Programs	Digital Engineering	5
CFS-C5-01	Cross-Vendor SE Tool Interoperability	Tools & Digital Practice	9
CFS-C5-02	AI in SE Practice	Tools & Digital Practice	9
CFS-C5-03	Lowering SE Tool Adoption Barriers	Tools & Digital Practice	9
CFS-C5-04	Federated SE Tool Ecosystem Management	Tools & Digital Practice	8
CFS-C5-05	Communicating SE Model Results to Non-SE Stakeholders	Tools & Digital Practice	6
CFS-C6-01	Domain-Specific SE Handbook Addenda	Knowledge & Standards	7

CFS-C6-02	SE Lifecycle Model Representations	Knowledge & Standards	7
CFS-C6-03	SE Vision Update	Knowledge & Standards	5
CFS-C6-04	Interface Management Guidance	Knowledge & Standards	8
CFS-C6-05	SE for Decision-Makers	Knowledge & Standards	7
CFS-C7-01	INCOSE IP and Licensing Reform	Member Services & Partnerships	6
CFS-C7-02	INCOSE Knowledge Portal	Member Services & Partnerships	8
CFS-C7-03	INCOSE Strategic Partnership Architecture	Member Services & Partnerships	8
CFS-C7-04	Affordable Enterprise Access to Foundational SE Standards	Member Services & Partnerships	4
Total			238

Note: Individual needs may be addressed by multiple Calls for Solutions. The total of 238 need-CFS linkages reflects 188 unique needs, some of which fall within the scope of more than one CFS.

Table B: Organization-to-Series Mapping

The following table shows which booklet series address needs raised by each contributing CAB member company. A bullet (●) indicates that the organization contributed at least one need that appears in that series.

Organization	S1	S2	S3	S4	S5	S6	S7	Series Count
Thales	●	●	●	●	●	●	●	7
RTX	●	●	●	●	●	●	●	7
Honeywell Aerospace Technologies	●	●	●	●	●	●	–	6
Lockheed Martin Corporation	●	●	●	●	–	●	●	6
Cummins, Inc.	●	–	●	●	●	–	–	4
Dassault Systèmes	●	–	●	–	●	–	●	4
John Deere & Company	●	●	●	–	–	–	●	4
Aerospace Corporation, The	●	–	●	–	–	●	●	4
General Dynamics	●	●	–	–	●	●	–	4
IQNOX, LLC	–	–	●	–	●	–	●	3
Siemens	–	●	–	–	●	–	●	3
EMBRAER	–	●	–	–	–	–	●	2
Ford Motor Company	–	–	–	–	–	●	●	2
Hitachi Energy	–	–	–	–	–	●	●	2
Los Alamos National Laboratory	●	–	–	–	–	●	–	2
Space Dynamics Laboratory	–	–	●	–	–	–	●	2

Woodward Inc	●	–	●	–	–	–	–	2
BlueHalo Labs, An AV Company	–	●	–	–	–	–	–	1
Boston Scientific Corporation	●	–	–	–	–	–	–	1
Capgemini Engineering	–	–	●	–	–	–	–	1
GE Aerospace	–	–	–	–	–	●	–	1
General Motors	–	●	–	–	–	–	–	1
L3Harris Technologies	–	●	–	–	–	–	–	1
Prime Solutions Group, Inc	–	●	–	–	–	–	–	1
Shell	–	–	●	–	–	–	–	1
Sierra Nevada Corporation	–	–	–	●	–	–	–	1
System Strategy, Inc (SSI)	–	–	–	–	–	–	●	1
Vector Informatik GmbH	–	–	–	–	–	–	●	1

Northrop Grumman Corporation contributed needs at the workshop; cluster assignments are pending.

Appendix B: Priority and Sequencing

The 30 Calls for Solutions are organized into three release quadrants based on the intersection of impact and delivery timeline. This sequencing reflects a deliberate strategy: build credibility with early, high-impact deliverables while staging the longer-term investments that require extended lead time.

Quadrant 1 – Quick Wins

High/Very High Impact, Less Than 1-2 Year Delivery

Release first. High value, achievable fast. These CFSs build credibility and demonstrate INCOSE delivery velocity.

18 Calls for Solutions:

CFS ID	Series	Title	Impact	Delivery Horizon
CFS-C1-01	Process & Speed	Risk-Informed SE Process Tailoring: Maturity Profiles & Approved Reduction Frameworks	High	<2 years
CFS-C1-02	Process & Speed	Agile SE for Cyber-Physical Systems: When, How, and What to Avoid	High	<2 years
CFS-C1-03	Process & Speed	Minimum Viable Requirements: Enabling Concurrent Requirements and Architecture Development	High	<2 years
CFS-C1-04	Process & Speed	SE–Program Management Integration: Aligning SE Lead Times with Schedule Planning	High	<2 years
CFS-C2-01	SE Value & Culture	Making the Case for SE: Enabling Practitioners to Demonstrate ROI to Leadership	Very High	<1 year

CFS-C2-02	SE Value & Culture	Defining What Systems Engineering Is: Role Boundaries, Competency Standards, and Hiring Frameworks	High	<2 years
CFS-C2-03	SE Value & Culture	Organizational Change for SE Adoption: Silo Reduction, Systems Thinking Culture, and Leadership Enablement	High	<2 years
CFS-C3-01	Workforce & Education	SE Competency Framework: Defining Capability Levels Across the SE Career Spectrum	Very High	<2 years
CFS-C3-03	Workforce & Education	Practitioner Knowledge Capture and Mentorship: Preserving SE Wisdom Before It Walks Out the Door	High	<2 years
CFS-C4-02	Digital Engineering	Model-Based Requirements: Linking Requirements to Architecture While Satisfying Contractual Documentation	High	<2 years
CFS-C5-02	Tools & Digital Practice	AI in SE Practice: Use Cases, Native Integration Patterns, and Quality Governance	Very High	<2 years
CFS-C5-03	Tools & Digital Practice	Lowering SE Tool Adoption Barriers: Usability Standards and Accelerated Learning Pathways	High	<2 years
CFS-C6-01	Knowledge & Standards	Domain-Specific SE Handbook Addenda: Making INCOSE Guidance Relevant Across Industries	High	<2 years
CFS-C6-02	Knowledge & Standards	SE Lifecycle Model Representations: Alternatives to the Sequential V-Model Perception	High	<2 years
CFS-C6-03	Knowledge & Standards	SE Vision 2035 Update: Integrating the Disruptions the Original Missed	High	<2 years

CFS-C7-01	Member Services & Partnerships	INCOSE IP and Licensing Reform: Removing Barriers to Internal Member Use of INCOSE Content	High	<1 year
CFS-C7-02	Member Services & Partnerships	INCOSE Knowledge Portal: Resource Discovery, Curated Access, and Member Notification	High	<2 years
CFS-C7-03	Member Services & Partnerships	INCOSE Strategic Partnership Architecture: Formalizing Relationships with Peer Organizations	High	<2 years

Quadrant 2 – Strategic Investments

High/Very High Impact, 2-5 Year Delivery

Stage now. These need long lead time. Resource commitment decisions must happen in parallel with Quick Win execution.

4 Calls for Solutions:

CFS ID	Series	Title	Impact	Delivery Horizon
CFS-C3-02	Workforce & Education	Academia–Industry SE Collaboration: Bridging the Curriculum-Practice Gap	High	2–3 years
CFS-C4-01	Digital Engineering	MBSE Organizational Adoption: Planning, Infrastructure, and Avoiding the Failure Patterns	Very High	2–3 years
CFS-C5-01	Tools & Digital Practice	Cross-Vendor SE Tool Interoperability: Enabling SE Functions Across Fragmented Tool Ecosystems	Very High	2–4 years
CFS-C5-04	Tools & Digital Practice	Federated SE Tool Ecosystem Management: SE Methods That Work When a Unified Platform Is Impossible	High	2–3 years

Quadrant 3 – Supporting Actions

Medium Impact, Fast Delivery

Release in parallel with Quadrant 1. Lower profile but sustain momentum and close important gaps.

8 Calls for Solutions:

CFS ID	Series	Title	Impact	Delivery Horizon
CFS-C1-05	Process & Speed	Compressed-Schedule SE: Methods for Delivering SE Value Under Time and Resource Constraints	Medium-High	<2 years
CFS-C2-04	SE Value & Culture	SE Success Evidence Base: Documented Cases from Non-Aerospace/Defense Industries	Medium-High	<2 years
CFS-C3-04	Workforce & Education	Building Internal SE Training Programs: Organizational Capability Development from the Ground Up	Medium-High	<2 years
CFS-C4-03	Digital Engineering	MBSE for Legacy Programs: Knowledge Capture Before the Expertise Retires	Medium-High	<2 years
CFS-C5-05	Tools & Digital Practice	Communicating SE Model Results to Non-SE Stakeholders: Abstraction, Audience, and Accessibility	Medium-High	<2 years
CFS-C6-04	Knowledge & Standards	Interface Management Guidance: Resolving Architecture-to-Discipline Boundary Ambiguity	Medium-High	<2 years
CFS-C6-05	Knowledge & Standards	SE for Decision-Makers: Short-Format Authoritative Guidance for Executives and Non-SE Leaders	Medium-High	<1 year
CFS-C7-04	Member Services & Partnerships	Affordable Enterprise Access to Foundational SE Standards: Licensing Program for ISO/IEC 15288 and SEBOK	Medium-High	<1 year

Portfolio Summary

Dimension	Breakdown
Quadrant Distribution	Q1 Quick Wins: 18, Q2 Strategic Investments: 4, Q3 Supporting Actions: 8
Priority	7 Immediate, 23 Near-term
Delivery Horizon	4 (less than 1 year), 22 (less than 2 years), 3 (2-3 years), 1 (2-4 years)
Impact	5 Very High, 17 High, 8 Medium-High

Note: Series 7 items (institutional commitments) appear in quadrants alongside open calls. Their positioning reflects the same impact-timeline assessment applied to all 30 specifications, consistent with INCOSE holding itself to the same transparency standard it applies to solution teams.

What Comes Next

With the first application window now closed, the initiative moves through three near-term milestones:

1. Application review and team commissioning. The Joint Review Panel will formally commission each project with an approved charter, deliverable specification, and timeline.
2. Project execution begins. Commissioned teams begin work against their approved charters.
3. Subsequent application cycles. Additional Calls for Solutions will open on a rolling basis. Announcements will be posted on INCOSE Connect, the CAB webpage, and INCOSE social media channels.

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