Engineering a better future | CAETS

Knowledge, Communications, & Digital Engagement

An Integrated Knowledge Ecosystem

PREFACE

For nearly five decades, CAETS has brought together national academies of engineering and technological sciences to address issues of global importance. Its collaborative work has produced publications grounded in engineering expertise, international perspective, independent technical review, and the credibility of its member academies.

The environment in which that knowledge was created and used is changing fundamentally. Digital technologies make it possible to reach diverse audiences in different forms, through different channels, and over a much longer period than was possible when a completed publication was the principal endpoint of a project. At the same time, policymakers, engineers, educators, industry leaders, students, and the broader public increasingly expect knowledge to be readily accessible, relevant to their needs, and available in forms that support understanding and application.

This document responds to the opportunities created by these changes, positioning CAETS to achieve greater impact through its publications.

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Engineering a better future | CAETS

Knowledge, Communications, & Digital Engagement

An Integrated Knowledge Ecosystem

PART I. Strategy

Board Endorsed 14 September 2026

Council Approved 17 September 2026

Version 1.0

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Introduction

CAETS creates engineering-related knowledge through international collaboration among its member academies. The opportunity now is to ensure that this knowledge reaches the audiences that can understand, apply, and act upon it—and that its value extends well beyond the release of a single publication.

This Strategy represents a major shift from a publication-centered model to the integrated Knowledge Ecosystem illustrated in Figure 1. Foundational Publications become the authoritative technical knowledge base. Each is developed for a defined Primary Audience. From that base, Knowledge Amplification extends the value of the work through Companion Deliverables intentionally designed for additional Priority Audiences. Together, the Foundational Publication and its Companion Deliverables form a Knowledge Portfolio that can be amplified through digital engagement, remain discoverable through the Knowledge Platform, and evolve as new audiences, needs, and communication opportunities emerge. The approach is governed by four Core Principles:

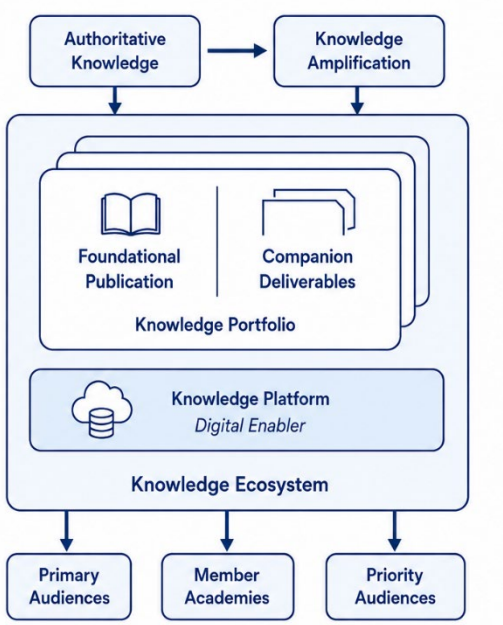


Figure 1. Integrated Knowledge Ecosystem

- **Audience First**
- **Create Knowledge Once. Create Impact Repeatedly.**
- **Technical Integrity & Knowledge Traceability**
- **Adaptive Evolution**

Knowledge Amplification is the function through which CAETS deliberately creates repeated opportunities for impact from the authoritative technical knowledge base contained within the Foundational Publication.

Chapter 1 establishes the strategic foundation and describes the shift from publications as endpoints to Knowledge Portfolios designed for impact. Chapter 2 describes the CAETS Knowledge Ecosystem and the functions that enable knowledge to be created, amplified, made accessible, and sustained over time. Chapter 3 describes governance across the knowledge lifecycle, preserving technical integrity while enabling portfolios and the ecosystem itself to evolve. ***Part II provides the standards and implementation guidance needed to put this Strategy into practice.***

1. From Knowledge Creation to Global Impact

1.1 Why Change Now

Engineering and technology are increasingly central to the world's most consequential challenges. CAETS is uniquely positioned to bring together engineering perspectives across national boundaries to create

knowledge, but the impact of that knowledge depends increasingly on much more than the quality of its technical work. Historically, a major CAETS project has culminated in a report, white paper, position paper, or other formal publication. Those publications remain essential. What has changed is the communications environment around them. Audiences today encounter information through many channels, often in shorter and more targeted forms. Digital platforms enable ongoing access and engagement; and new communication tools make it possible to extend the useful life of authoritative work without recreating the underlying knowledge.

The strategic opportunity is therefore not to replace CAETS' publication tradition, but to build upon it. The fundamental shift is from treating the publication as the endpoint of a project to treating the authoritative knowledge contained within as an asset that can be deliberately packaged, communicated, applied, and sustained for ongoing impact.

1.2 Core Principles and Key Terms

Four Core Principles provide connective logic for the Strategy and guide the design, governance, and evolution of the CAETS Knowledge Ecosystem.



Audience First. CAETS identifies at the outset who is expected to use its knowledge, for what purpose, and in what form it will be most useful. The Foundational Publication and each Companion Deliverable are designed with their intended audiences in mind.



Create Knowledge Once. Create Impact Repeatedly. Authoritative knowledge is created rigorously once, then deliberately adapted and extended through Knowledge Amplification to reach different audiences, support different applications, and continue to generate impact over time.



Technical Integrity & Knowledge Traceability. Every expression of CAETS knowledge preserves the technical meaning of its authoritative foundation and maintains a clear relationship to that foundation. Adaptation may change format, language, emphasis, or level of detail, but will not introduce unsupported substance or conclusions.



Adaptive Evolution. Knowledge Portfolios and the broader ecosystem will evolve as audiences, needs, technologies, and communication opportunities change, while the endorsed authoritative foundation remains stable.

Key Terms	
Foundational Publication	The authoritative technical base of a Knowledge Portfolio, developed and reviewed through CAETS processes.
Companion Deliverable	An audience-specific expression of knowledge derived from and traceable to the Foundational Publication.
Knowledge Portfolio	A Foundational Publication together with its related Companion Deliverables.
Primary Audience	The audience for whom the Foundational Publication is principally developed.
Priority Audiences	Additional audiences CAETS deliberately seeks to reach through Knowledge Amplification.
Knowledge Amplification	The deliberate adaptation and extension of authoritative knowledge to create repeated opportunities for impact.

1.3 Strategic Shift

This Strategy places knowledge—not publications—at the center of CAETS' communications and digital engagement activities. Foundational Publications provide an authoritative base. Companion Deliverables translate and package that knowledge for defined audiences. The combination is managed as a Knowledge Portfolio, supported by digital capabilities that make the knowledge readily accessible and available to inform decisions, practice, education, public understanding, and future work.

Today's Model	Future Knowledge Ecosystem
Report publication is often the endpoint	A Foundational Publication is the authoritative base of a Knowledge Portfolio that extends the reach of that base knowledge
Communications begin after publication	Audience and Companion Deliverable planning begin at project inception
One product is expected to serve many audiences	Products are intentionally designed for defined audiences
Success is typically measured by completion or distribution	Success increasingly considers application, engagement, & impact
Published work may become less visible over time	Knowledge is kept accessible, discoverable, and capable of renewed amplification

1.4 Knowledge-to-Impact Lifecycle

The objective is not simply to publish knowledge, but to enable its application. The Knowledge-to-Impact Lifecycle, shown in Figure 2, begins with identification of a global challenge and draws on international collaboration to create related authoritative knowledge. That knowledge contributes directly to application and action by its Primary Audience. Through Knowledge Amplification, it also is adapted and extended to reach additional Priority Audiences—creating multiple pathways through which the authoritative knowledge generates impact.

The lifecycle is not intended to be a rigid linear process. Audience considerations will shape work from the outset; Companion Deliverables can be planned while the foundational work is being developed and/or created later; and evidence of use and impact will inform future CAETS initiatives.

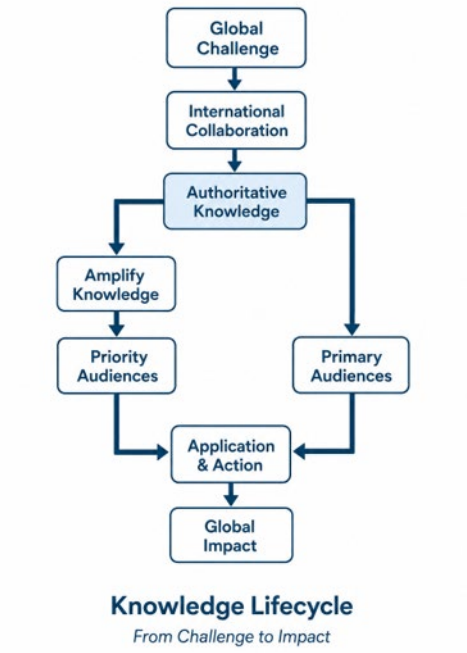


Figure 2. Knowledge-to-Impact Lifecycle

1.5 Strategic Direction

The strategic direction established here strengthens rather than replaces the practices that have earned CAETS its international reputation. Rigorous international collaboration, independent technical review, and member-academy endorsement remain fundamental.

The result is an end-to-end approach: from global challenge to global impact, with authoritative engineering knowledge as the enduring foundation.

2. The CAETS Knowledge Ecosystem

The strategic shift described in Chapter 1 requires a Knowledge Ecosystem, illustrated in Figure 3, that puts the four Core Principles into practice across the full lifecycle of authoritative knowledge. Four interdependent functions are central to that ecosystem: building an authoritative foundation, amplifying its value for defined audiences, providing sustained access through a digital platform, and enabling the ecosystem and its Knowledge Portfolios to evolve over time.

2.1 Building the Authoritative Foundation

CAETS' credibility begins with development of authoritative engineering knowledge of value to an explicitly identified **Primary Audience**. Foundational Publications—including technical reports, white papers, position papers, and other rigorously reviewed works—provide the stable technical foundation from which other knowledge assets are derived.

The Foundational Publication is not merely one item among many in a portfolio. It establishes the source against which technical integrity will be assessed. Its role is therefore both substantive and architectural: it anchors the knowledge, its provenance, and the Companion Deliverables that extend its reach.

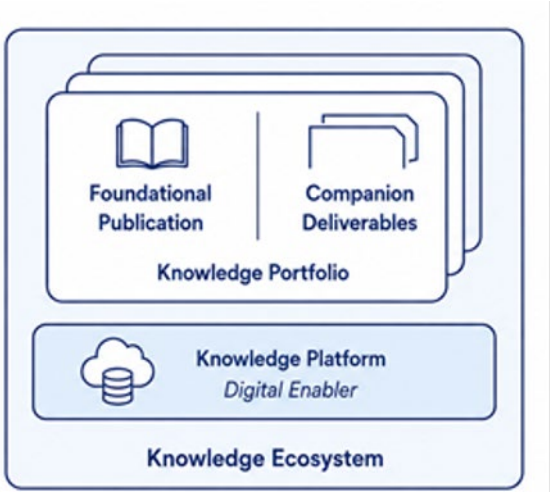


Figure 3. Knowledge Ecosystem

Over time, the form of a foundational work may evolve beyond a conventional publication. The enduring requirement is not a particular format, but authoritative content developed and reviewed through processes that preserve CAETS' technical integrity and institutional credibility.

2.2 Amplifying Knowledge Through Portfolios

Knowledge Amplification is the function through which CAETS creates repeated opportunities for impact from an authoritative foundation. It deliberately extends the value of that foundation by creating Companion Deliverables for defined audiences and purposes. The aim is not to reproduce the publication in shorter forms, but to select, frame, and present relevant knowledge in ways that support understanding, application, and action by multiple audiences.

A Knowledge Portfolio brings the Foundational Publication and its Companion Deliverables together as a managed body of work. Portfolio planning begins early enough to influence the design of the foundational work itself. It will identify the Primary Audience, likely Priority Audiences, potential Companion Deliverables, key messages, potential recommendations, and opportunities for later engagement.

Companion Deliverables may be released with the Foundational Publication and/or developed later. New deliverables can renew attention to authoritative work, address a newly important audience, respond to a related emerging issue, or take advantage of a new communication capability—provided **Technical Integrity and Knowledge Traceability** to the foundation are maintained.

2.3 Knowledge Platform

The Knowledge Platform, provided through the CAETS website, is the digital enabler of the ecosystem. Its purpose is broader than storing publications. It connects Foundational Publications, Companion Deliverables, related knowledge, and the metadata needed to make CAETS work discoverable, accessible, and reusable.

The Platform makes relationships visible. A user who encounters an infographic, article, brief, or other Companion Deliverable can reach the authoritative foundation and related portfolio assets. Conversely, a user who finds a Foundational Publication can discover the companion materials designed for different audiences.

The Platform also supports institutional memory. By organizing knowledge around portfolios rather than isolated files, CAETS preserves the context and relationships that allow work to remain useful beyond the tenure of individual Working Groups, committee members, or Secretariat personnel.

2.4 The Knowledge Ecosystem Is Designed to Evolve



The Knowledge Ecosystem is intentionally adaptive. Communication channels, audience expectations, and digital capabilities will continue to change. This Strategy therefore defines enduring functions and principles rather than prescribing a fixed technology architecture.

Evolution will occur at two levels. Individual Knowledge Portfolios will expand as new Companion Deliverables, audiences, or applications emerge. The ecosystem itself will evolve as CAETS learns which approaches improve accessibility, engagement, application, and impact.

This adaptive character does not make the authoritative foundation fluid. Foundational Publications remain stable records of endorsed work. What evolves around them is the way their knowledge is amplified, connected, accessed, and applied.

3. Governing and Evolving the Knowledge Ecosystem

The CAETS Knowledge Ecosystem depends on governance that puts the Core Principles into practice—protecting the qualities that make CAETS knowledge authoritative while enabling Knowledge Amplification, new forms of communication and engagement, and evolution of Knowledge Portfolios within a trusted system. The objective is not to add layers of process. It is to make responsibility clear across the lifecycle of a Knowledge Portfolio and to ensure that innovation occurs within appropriate boundaries.

3.1 Roles Across the Knowledge Lifecycle

Working Groups remain responsible for the technical substance of CAETS authoritative knowledge. Their responsibilities begin before drafting, with identification of the challenge to be addressed, the Primary Audience for the Foundational Publication, likely Priority Audiences, and the anticipated Knowledge Portfolio. The Working Group Chair has a particularly important role in maintaining coherence between the Foundational Publication and Companion Deliverables.

Member academies provide independent scrutiny and endorsement that give a Foundational Publication its standing as CAETS authoritative work. Wherever practical, portfolio planning will make anticipated Companion Deliverables visible during this review so their intended relationship to the foundational work is understood from the outset.

The Communications Committee and Secretariat support communications quality, consistency, accessibility, digital presentation, and alignment with CAETS Publication Standards. Their roles complement rather than substitute for technical accountability. They also support ongoing evolution of the Knowledge Ecosystem.

3.2 Governing the Knowledge Ecosystem

Effective governance does not constrain innovation. It establishes the boundaries within which Working Groups, the Communications Committee, the Secretariat, and others can use new formats and technologies with confidence.

Governance will be proportionate to the product and the risk. It will provide confidence that CAETS' name is attached to work of technical integrity and quality without requiring every audience-specific adaptation to repeat the full review process used for a Foundational Publication.

The CAETS Knowledge Ecosystem is comprised of two major elements: Knowledge Portfolios and the enabling Knowledge Platform. Governance for each element is described below.

3.3 Governing Evolving Knowledge Portfolios

A Knowledge Portfolio is expected to evolve. New Companion Deliverables may be created after publication, existing deliverables may be refreshed for a new audience or channel, and portfolio connections may expand as related CAETS work is produced. This principle is especially important as formats become more dynamic and as automated tools increasingly support drafting, translation, visualization, and dissemination. **New capabilities can increase reach and efficiency, but accountability for technical integrity remains human and institutional.**



Portfolio governance begins with the distinction between the authoritative foundation and the ways in which that knowledge is amplified. Foundational Publications continue to follow established CAETS processes for Technical Review and Council Endorsement. Companion Deliverables derive their authority from that foundation and must preserve its technical integrity and traceability.



Technical Integrity & Knowledge Traceability is a Core Principle that applies to every Knowledge Portfolio. Companion Deliverables may simplify, select, visualize, translate, or reframe content for a particular audience, but they must not alter the substance or imply conclusions not supported by the authoritative foundation. Knowledge traceability makes that relationship explicit. Companion Deliverables will identify and connect to their Foundational Publication, and the Knowledge Platform will preserve those relationships. Traceability both protects credibility and helps audiences move from concise or specialized products to a deeper technical basis if needed.

The governance question is therefore not whether a portfolio may change, but how change is managed without weakening its authoritative foundation. The key test is continuing Technical Integrity and Knowledge Traceability. **Changes that reinterpret or materially extend the underlying technical conclusions from the Foundational Publication require a level of review appropriate to the change—including Council Review and Endorsement of the Companion Deliverable.** Changes in format, presentation, or audience targeting can be managed through the standards and responsibilities established in Part II.

This approach allows CAETS to keep authoritative knowledge active and useful rather than treating publication as the end of its lifecycle.

3.4 Governing the Evolving Knowledge Platform



The Knowledge Platform itself will evolve through experience. CAETS will use evidence from portfolio access, audience engagement, discoverability, application, and other indicators to refine how knowledge is created, amplified, and made accessible. The objective is learning rather than measurement for its own sake.

Sustaining the broader ecosystem also requires stewardship of institutional knowledge, standards, templates, reusable assets, and digital capabilities via the Knowledge Platform. Because CAETS relies heavily on globally distributed volunteers and a small Secretariat, simplicity and continuity are strategic requirements. Processes and tools must be understandable, maintainable, and transferable as leadership and committee participation change.

Effective governance ensures that CAETS' authoritative knowledge will move confidently from global challenge to global impact while preserving the qualities that have long distinguished CAETS' publications.

From Strategy to Practice

Part I establishes what CAETS is seeking to achieve and the Core Principles that govern the future Knowledge Ecosystem.

Part II contains implementation guidance through which Working Groups, reviewers, the Communications Committee, the Secretariat, the Board, and the Council put the Strategy into Practice.

A companion document, Guide for Working Groups and Publication Leads, contains more detailed guidance, standards, and downloadable materials to support implementation. The standards will evolve through controlled, versioned updates while remaining anchored in the Strategy in Part I.

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Knowledge, Communications, & Digital Engagement

An Integrated Knowledge Ecosystem

PART II. Publication Standards, Implementation & Governance

Board Approved 14 September 2026

Version 1.1

FOR CAETS USE ONLY

Introduction

Part I establishes the strategic direction for an integrated CAETS Knowledge Ecosystem. Part II translates that direction into the governance, standards, roles, and implementation framework needed to create, review, publish, amplify, and sustain CAETS authoritative knowledge.

The four Core Principles established in Part I apply throughout the knowledge lifecycle and provide the organizing framework for the requirements that follow.



Audience First. CAETS identifies at the outset who is expected to use its knowledge, for what purpose, and in what form it will be most useful. The Foundational Publication and each Companion Deliverable are designed with their intended audiences in mind.



Create Knowledge Once. Create Impact Repeatedly. Authoritative knowledge is created rigorously once, then deliberately adapted and extended through Knowledge Amplification to reach different audiences, support different applications, and continue to generate impact over time.



Technical Integrity & Knowledge Traceability. Every expression of CAETS knowledge preserves the technical meaning of its authoritative foundation and maintains a clear relationship to that foundation. Adaptation may change format, language, emphasis, or level of detail, but will not introduce unsupported substance or conclusions.



Adaptive Evolution. Knowledge Portfolios and the broader Knowledge Ecosystem will evolve as audiences, needs, technologies, and communication opportunities change, while the endorsed authoritative foundation remains stable.

Sections 1-3 describe a Knowledge Initiative that implements the knowledge lifecycle from initial planning through publication and ongoing management of the Foundational Publication and its Companion Deliverables. Section 4 discusses Publication Structures, with emphasis on the Technical Report. Section 5 provides an overview of CAETS Publication Standards. Section 6 discusses ongoing management and evolution of the Knowledge Ecosystem. Detailed implementation guidance, templates, and checklists are provided separately in the Guide for Working Groups & Publication Leads.

1. Implementing a Knowledge Initiative

1.1 Publication Development and the Knowledge Initiative

The CAETS knowledge lifecycle does not begin or end with publication. It develops through an initiative that begins with the identification of an important global challenge or opportunity and continues through planning, creation, review, endorsement, publication, amplification, application, and ongoing management.

The lifecycle provides a common framework while allowing individual initiatives to differ in scope, publication architecture, audience, and approach. Key decisions about purpose, audiences,

publication form, responsibilities, and potential amplification are made during planning; subsequent sections establish the standards and accountabilities that apply at each stage.

A Knowledge Initiative may produce a single Foundational Publication or, where the nature of the challenge warrants, a coordinated family of Foundational Publications addressing distinct sectors, regions, technologies, or other dimensions. Individual publications within a family may proceed on different timelines and support their own Knowledge Portfolios. A synthesis Companion Deliverable may subsequently aggregate and integrate findings, conclusions, or recommendations across the family of Foundational Publications as shown in Figure 1.

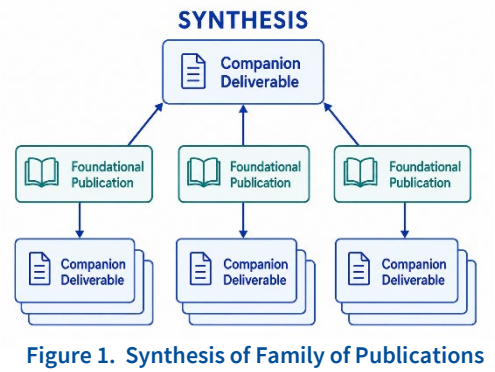


Figure 1. Synthesis of Family of Publications

This flexibility allows authoritative knowledge to reach audiences earlier, support more focused use and amplification, and enable individual components to be updated as circumstances change without requiring reconsideration of an otherwise current body of work.

Figure 2 illustrates how publication development processes intersect with the Knowledge Lifecycle for both the Foundational Publication and its Companion Deliverables.

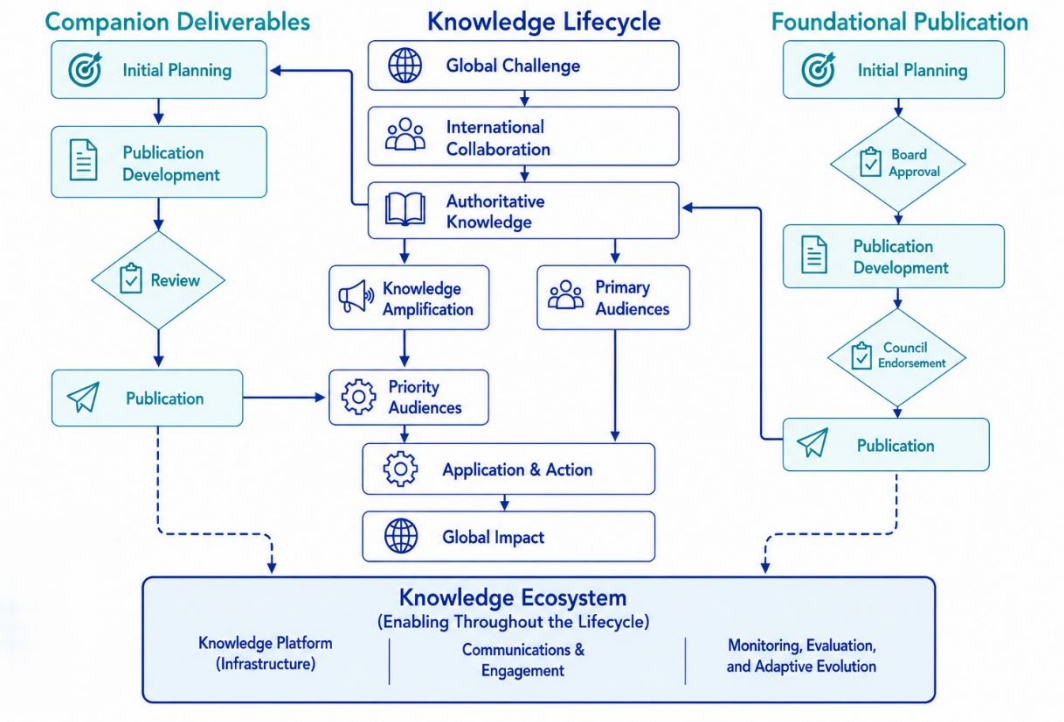


Figure 2. Implementation of the Knowledge Lifecycle

Note that the authoritative knowledge established by the Foundational Publication links directly to development of Companion Deliverables. Additionally, upon completion of the publication processes the end products are distributed to identified Primary and Priority audience(s)s in addition to being deposited into the CAETS Knowledge Ecosystem to enable ongoing communications and engagement as well as long-term sustainment.

1.2 Roles across the Knowledge Initiative

Clear accountability is essential to maintaining the technical integrity and institutional continuity of CAETS knowledge while allowing individual initiatives flexibility in how they organize and execute their work.

The roles that follow establish principal accountabilities across the Knowledge Initiative. Individuals may hold more than one role where appropriate (e.g. Working Group Chair may also serve as Publication Lead.).

Role	Principal Accountabilities
Working Group Chair	Provides overall leadership for the initiative; maintains alignment with its approved Statement of Task; ensures that the required expertise is engaged; ensures that conflict-of-interest disclosures are obtained, reviewed, and updated as appropriate; maintains coherence where an initiative includes multiple Foundational Publications or related activities; and retains appropriate technical-integrity oversight of work arising from the initiative.
Publication Lead	Leads development of a Foundational Publication and/or Companion Deliverable; follows applicable CAETS Publication Standards, guidance, and review requirements; and is accountable for the coherence and quality of the work. For a Foundational Publication, the Publication Lead is also accountable for technical integrity and for ensuring that substantive technical review comments are appropriately considered and resolved. For a Companion Deliverable, the Publication Lead is responsible for maintaining Technical Integrity and Knowledge Traceability to the underlying Foundational Publication.
Communications Committee	Provides and/or coordinates the Communications Review; advises on audiences, messages, formats, and communications channels; may identify or support opportunities to amplify CAETS knowledge.
Secretariat	Provides institutional continuity and support across planning, review, endorsement, publication, and ongoing management; maintains publication records and metadata; obtains and maintains Digital Object Identifiers (DOI); and coordinates periodic review for currency.
Board	Oversees implementation of the Strategy; approves the standards and policies through which it is implemented; and approves the Statement of Task for individual initiatives.
Council	Endorses Foundational Publications in accordance with CAETS governance requirements, establishing them as authoritative knowledge and authorizing their subsequent amplification through Companion Deliverables under the conditions established in these standards.

1.3 Publication Types & Their Uses

CAETS knowledge will be published in several forms, selected to reflect the purpose, audience, and nature of the work. The publication types shown below provide a common framework for planning and publication while allowing sufficient flexibility to meet the needs of individual initiatives.

Publication Type	Principal Purpose	Typical Characteristics
Technical Report	Provide authoritative technical analysis and synthesis of a complex issue	Evidence-rich; technically substantive; may address multiple dimensions; may include detailed supporting material and appendices
White Paper	Examine an emerging or strategically important issue and develop an informed CAETS perspective	Focused analysis and synthesis; may frame an issue, identify implications, and establish directions
Position Paper	Establish and explain a CAETS position on a defined issue	Focused argument supported by evidence and analysis; clearly states the position and rationale
Policy Paper	Analyze a policy issue in sufficient depth to support policy consideration or action	Integrates technical evidence with policy context and implications
Policy Brief	Provide concise, actionable knowledge for policymakers or other decision-makers	Distills relevant evidence, implications, and recommendations
Article	Explain or interpret CAETS knowledge for a defined audience in an accessible narrative form	Focused narrative adapted to the intended audience

Policy Briefs and Articles are likely to be implemented as Companion Deliverables, drawing their substantive content from a previously established Foundational Publication. Companion Deliverables may also take other forms appropriate to the audience and communication objective; the list below is illustrative rather than exhaustive.

Additional Types for Companion Deliverables	Typical Purpose and Use
Infographic	Communicates key findings, relationships, processes, or quantitative information visually
Video	Presents or explains key knowledge for digital engagement, education, public communication, or other audiences
Presentation	Organizes authoritative knowledge for briefings, meetings, conferences, education, or stakeholder engagement
Digital or Interactive Content	Enables audiences to explore or engage with CAETS knowledge through formats that may evolve with technology and user needs

1.4 Choosing the Appropriate Form

The choice of publication type for the Foundational Publication begins with identification of the Primary Audience, publication objectives, and intended outcomes rather than with a preferred format.

Companion Deliverables may substantially adapt language, organization, and emphasis, but must be designed to communicate clearly with Priority Audiences. **If development of a Companion Deliverable produces substantive new conclusions or recommendations, those additions constitute new authoritative content and require appropriate review and endorsement.**

2. Developing a Foundational Publication

Major steps in implementation of a knowledge lifecycle are illustrated in Figure 2, and include initial planning, content development, governance gates, and publication.

2.1 Initial Planning for the Foundational Publication

The planning process begins with identification of a global challenge and determining whether CAETS is positioned to contribute. If so, key steps include establishment of appropriate leadership and expertise; consideration of potential conflicts of interest; identification of the Primary Audience and likely Priority Audience(s); definition of objectives for each; selection of the publication architecture; and development of a Statement of Task to be submitted for Board approval.

2.2 Board Approval to Proceed

The Statement of Task, together with documentation of the resolution of conflicts of interest, is submitted to the Secretariat for Board Review when the initiative has been developed sufficiently to permit meaningful consideration of its purpose, scope, audiences, publication architecture, leadership, and proposed approach.

Board approval authorizes the initiative to proceed within the terms of the Statement of Task without freezing the project design or requiring Board review of routine execution decisions.

2.3 Building the Foundational Publication

CAETS Foundational Publications draw on appropriate evidence, international experience, and expert judgment to provide authoritative analysis and synthesis within the approved Statement of Task. The publication development process is aligned with the Core Principles that underpin CAETS' Strategy. Key considerations are summarized below.

2.3.1 Audience First

Every Foundational Publication is written for a **Primary Audience** identified during planning. Technical depth, terminology, structure, explanation, and presentation must reflect what that audience needs to understand and use the work. The report must provide coherent, authoritative, evidence-based analysis and synthesis; any recommendations should be directed to the identified Primary Audience.

2.3.2 Create Knowledge Once. Create Impact Repeatedly.

A Foundational Publication provides the authoritative foundation for subsequent use and amplification. Clear structure, concise statements of key findings, reusable graphics, consistent terminology, and well-organized source material will facilitate development of **Companion Deliverables** and future adaptation.

2.3.3 Technical Integrity & Knowledge Traceability

The Foundational Publication establishes the authoritative knowledge base from which Companion Deliverables may be developed. Its findings, conclusions, recommendations, evidence, and other substantive content must therefore be structured so subsequent adaptations can **be traced to and remain technically faithful** to the underlying authoritative source.

2.3.4 Pre-Publication Check

The Working Group will perform an end-to-end check of the document to ensure that evidence and sources are properly attributed, and that the document adheres to CAETS Publication Standards prior to initiating review processes.

2.4 Review and Endorsement of Foundational Publications

Review and endorsement protect the technical integrity, communication quality, and institutional authority of CAETS knowledge. Requirements are proportionate to the nature and significance of the publication or deliverable.

2.4.1 Technical Review

Every Foundational Publication will undergo an independent technical review appropriate to its scope, complexity, and significance. The review will assess the evidence, analysis, expert judgments, conclusions, and recommendations to identify material gaps, unsupported claims, significant uncertainties, or alternative interpretations that could affect the credibility or usefulness of the work.

The Publication Lead will ensure that review comments are considered, and their disposition appropriately documented. The published Foundational Publication must identify the individuals who participate in this technical review.

2.4.2 Communications Review

The Communications Review will occur sufficiently early to permit meaningful improvement and will be provided or coordinated by the Communications Committee, with Secretariat support as appropriate. This review will assess adherence to CAETS Publication Standards.

2.4.3 Council Review and Endorsement of Foundational Publications

The Secretariat distributes the completed Foundational Publication to CAETS member academies for review and Council endorsement. **Council endorsement is achieved when at least one-third of CAETS member academies endorse the publication**, in accordance with CAETS governance requirements.

During this review, member academies are invited to provide comments and suggestions for improvement. All suggestions must be considered and documented prior to publication.

The endorsement request will also seek authorization for subsequent Companion Deliverables based on the endorsed publication. This authorization permits adaptation and amplification for Priority Audiences without repeated Council endorsement, provided the conditions established in these standards are met. **Council authorization for this request also requires approval by at least one-third of CAETS member academies.**

Affirmative endorsement of the Foundational Publication together with approval for subsequent derivation of Companion Deliverables absent further Council review establishes

the Foundational Publication as authoritative CAETS knowledge and authorizes its controlled amplification through the associated Knowledge Portfolio.

2.5 Publication and Release

Upon Council endorsement, the Foundational Publication becomes part of the authoritative CAETS knowledge record.

2.5.1 Publication and Discovery

The Secretariat completes the publication process, including final publication information, activation of a Digital Object Identifier (DOI) and associated metadata, and institutional recordkeeping. The DOI will be obtained via Zenodo. Foundational Publications (and appropriate Companion Deliverables) will be hosted on the CAETS Knowledge Platform and deposited into Zenodo, providing a persistent external repository as an additional pathway for discovery beyond the CAETS website.

2.5.2 Distribution to the Primary Audience

The Working Group will use identified direct channels to distribute the work to its Primary Audience.

3. Developing a Companion Deliverable

The development process for a Companion Deliverable is abbreviated since the authoritative knowledge has already been established by the Foundational Publication. Key steps are summarized below.

3.1 Initial Planning

The first step is selection of the knowledge asset that will form the basis for the Companion Deliverable, followed by identification of its Priority Audience(s) and objectives. These factors inform selection of the publication form.

3.2 Companion Deliverable Development

3.2.1 Audience First



Companion Deliverables are shaped by Priority Audience(s) identified during initial planning; both the publication type and its content must be aligned with its intended audience.

3.2.2 Technical Integrity & Knowledge Traceability



Knowledge traceability underpins development of Companion Deliverables; clear linkage to the underlying authoritative knowledge must be traceable to maintain technical integrity.

3.3 Companion Deliverable Review

Companion Deliverables demonstrably traceable to an endorsed Foundational Publication do not require further Council endorsement (assuming prior Council authorization). **If, however, a proposed Companion Deliverable introduces substantive new conclusions or recommendations, it is subject to Council Review and Endorsement.**

3.3.1 Technical Integrity and Knowledge Traceability Review



Successful completion of Technical Integrity and Knowledge Traceability review is a condition of release for every Companion Deliverable. This must be confirmed by the Publication Lead responsible for the authoritative source publication, or by an explicitly designated technically qualified individual.

3.3.2 Communications Review

A Communications Review, provided or coordinated by the Communications Committee, will be conducted as appropriate to the audience, format, and significance of the deliverable.

3.4 Publication of the Companion Deliverable

Upon successful completion of the applicable review requirements for the Companion Deliverable, the Secretariat completes the publication process, including final publication information, activation of the DOI (if appropriate) and associated metadata, institutional recordkeeping; and releases the product through the CAETS digital environment. Additional direct communication channels may be identified by the Publication Lead.

4. Publication Structure

Section 1.3 described a variety of Publication Types that CAETS may use for different audiences and purposes. This section describes the structure and principal elements for a Technical Report, which historically has been the most used Publication Type. Other Publication Types will include some of these elements but will also include purpose-specific structural elements. Those details are discussed in the companion Guide for Working Groups and Publication Leads.

4.1 Technical Report Publication Structure and Primary Elements

Front matter is the material that appears before the main narrative of a publication and provides information needed to identify, navigate, understand, and appropriately cite the work. The specific front-matter elements used vary by publication type; not every publication will include every element described below.

4.1.1 Publication Information

Publication information appears at the front of the publication so that institutional identity, publication status, and citation information are immediately clear. **Every Foundational Publication will include a standardized Publication Page containing the full title; CAETS institutional identity; publication date; DOI; Recommended Citation; applicable license and third-party copyright statement; authoritative-version tracking; and required Council endorsement information.** Other publication types include the information appropriate to their format and status.

4.1.2 Preface and Acknowledgements

A Preface, when used, explains why the work was undertaken and provides only the institutional or project context needed to orient the reader. It does not repeat the summary, findings, or discussion that belongs in the Executive Summary or main text.

Acknowledgements may appear with the Preface or in an appendix or other appropriate back matter. Authors and reviewers must be clearly distinguished and may be identified in the Acknowledgements or an Appendix.

4.1.3 Glossaries and Acronyms

Technical reports will include a glossary and list of acronyms; other publications include them when needed to support readability and consistent use of terminology.

4.1.4 Table of Contents and Navigation

Longer publications will include navigation guides, including a Table of Contents and, where useful, lists of figures, tables, or other navigation aids. Digital navigation should help readers move readily among major sections and supporting material.

4.1.5 Executive Summary

Foundational Publications will include a concise Executive Summary presenting the purpose and scope of the publication, principal findings and conclusions, and any major recommendations. This enables the Primary Audience to understand the essential substance of the work without reproducing the full analysis, while also potentially providing the basis for a stand-alone Companion Deliverable.

End of Front Matter

4.1.6 Introduction

The Introduction establishes the subject, scope, context, and organization of the publication and prepares the reader for the analysis that follows.

4.1.7 Main Narrative

The main narrative develops the evidence, analysis, and reasoning needed to address the publication's purpose. Graphics, tables, diagrams, and other visual elements should be integrated where they improve understanding or communicate important relationships and evidence more effectively than text alone.

4.1.8 Conclusions and Recommendations

Conclusions synthesize what follows from the evidence and analysis. Recommendations, when included, must be actionable and presented in a form appropriate to the Primary Audience.

4.1.9 References and Citations

Publications that draw upon external sources must include references identifying the material cited in the publication.

4.1.10 Appendices

Appendices may contain supporting material that is important to the authority, transparency, or future usefulness of the work but would interrupt the flow or substantially increase the complexity of the main narrative. They may include detailed technical analyses, data, methodologies, case examples, supporting evidence, acknowledgements or reviewer information, or implications for specific audiences.

5. CAETS Publication Standards

The Publication Standards that follow apply across all CAETS publications and provide the basis for assessing compliance during Communications Reviews. Every CAETS publication is expected to adhere to all Publication Standards unless explicitly waived by the Secretariat in consultation with the Communications Committee.

Publication Standards are grouped by Editorial Standards; Visual Identity Standards; Multilingual and Translation Ready Standards; Digital Publication and Accessibility Standards; and Publication Rights, Copyright and Licensing Standards. These standards are summarized here and described in greater detail in the Guide for Working Groups and Publication Leads.

5.1 Editorial Standards

5.1.1 Audience Alignment and Tone

CAETS audiences, as implied by our Bylaws, include member academies, policy-makers, practicing engineers, educators, and the general public. The content, level of technical detail, organization, language, and presentation of each CAETS publication must be appropriate to its intended audience. Recommendations must clearly identify the audience responsible for, or positioned to act upon, them. The tone of a CAETS publication must be aligned with its intended audience.

5.1.2 CAETS Voice

CAETS communicates at the intersection of engineering excellence, international collaboration, and societal benefits. Our voice reflects the organization's role as a global convener of academies, while remaining clear, accessible, and grounded in technical credibility. CAETS' voice must be neutral, respectful, and nonpolitical.

5.1.3 Inclusive and Respectful Communication

CAETS communications must respect the dignity, agency, expertise, and contributions of all people. Language, examples, images, and descriptions will avoid exclusion, stereotyping, misrepresentation, or language that diminishes or patronizes people, groups, institutions, countries, regions, or communities.

5.1.4 International English

International English uses English as a global communication tool that can be understood across countries and cultures. CAETS publications will prioritize clarity and consistency rather than follow a single national variety of English. Usage must remain consistent within each publication, and authors should avoid idioms, culturally specific expressions, and unnecessarily complex sentence structures.

5.1.5 Clear and Accessible Writing

All CAETS publications must communicate complex engineering and technological issues as clearly as their subject matter permits. Writing should favor direct sentence structures, define specialized terms where needed, avoid unnecessary jargon, and use organization and explanation appropriate to the intended audience.

5.1.6 Evidence, Analysis, and Expert Judgment

CAETS publications must clearly distinguish evidence drawn from external sources, analysis developed through the work, and expert judgment used to interpret that evidence or reach conclusions. Where expert judgment contributes materially to a finding or conclusion beyond what is established by cited evidence, that reliance must be made explicit and its basis described sufficiently for the reader to understand how the judgment was reached.

5.1.7 Graphics, Tables, and Visual Evidence

Graphics, tables, diagrams, photographs, and other visual elements must support the purpose and narrative of the publication and should be used where they improve understanding, clarify complex information, reveal relationships or patterns, or reinforce important findings.

5.1.8 Claims, Attribution and References

Publications and related communications must avoid claims such as *world-leading*, *first-ever*, *unprecedented, revolutionary*, or *transformative* unless they are accurate, relevant, and supported by evidence. Ideas, data, findings, and quotations must be attributed clearly. CAETS publications will use ISO 690 unless the nature of the publication or an established disciplinary convention provides a compelling reason to use a different citation standard. References must identify sources sufficiently and precisely to enable readers to locate and verify the cited material.

5.1.9 Use of Artificial Intelligence (AI)-Enabled Tools

AI-enabled tools may be used to support brainstorming, outlining, drafting, summarizing, translation, review and editing. **All AI-assisted content must be reviewed by a person before use in a CAETS publication.**

Do not use AI tools to invent facts or quotations, fabricate sources, or create final content without review. Do not upload CAETS confidential, sensitive or unpublished materials into public AI-enabled tools.

5.1.10 Publication Identity

All CAETS publications must clearly identify CAETS as the publishing institution and provide the publication information applicable to their structure. Foundational Publications must include the required Council endorsement information. Companion Deliverables must clearly identify their relationship to the authoritative source publication(s) from which they are derived. Digital Object Identifiers (DOI) will be established for all Foundational Publications and applicable Companion Deliverables.

5.2 Visual Identity Standards

A consistent brand is essential to communicating a clear, professional, and recognizable identity. The CAETS brand reflects the organization's commitment to advancing engineering and technological sciences through global collaboration. Consistent use of these standards strengthens recognition, reinforces credibility, and ensures that content published under the CAETS name and logo has a cohesive, approachable, international, and technically accurate look and feel.

All CAETS publications must be readily identifiable as CAETS knowledge through consistent use of approved CAETS identity elements, including the CAETS name and logo, typography, core layout conventions, and other designated visual elements appropriate to the publication or medium. Approved identity elements and their use are established in the Guide for Working Groups & Publication Leads.

5.2.1 Using CAETS Logos

The CAETS logos are the primary visual representation of the organization's brand and must be used consistently across all communications.

5.2.2 Related Visual Assets

Additional Visual Assets include page headers, profile banners and profile photos developed for use on social media platforms. These assets also must be used consistently and without modification.

5.2.3 Color Palette

PRIMARY		SECONDARY
CAETS BLUE RGB: 14/77/150 HEX: 0E4D96 CMYK: 94/49/0/41	BLACK RGB: 0/0/0 HEX: 000000 CMYK: 0/0/0/100	CAETS TURQUOISE RGB: 53/213/228 HEX: 35D5E4 CMYK: 75/0/15/0



5.2.4 Typography and Layout

Typography and layout must support clarity, readability, accessibility, visual consistency, and effective use across digital and print formats. Typography must establish a clear visual hierarchy among titles, headings, body text, captions, tables, callouts, and other publication elements. Layout should provide sufficient white space, avoid unnecessary visual complexity, and support comfortable reading on common digital devices as well as in print.

Current CAETS publications use Times New Roman, Arial, and Montserrat as standard typefaces. Times New Roman and Arial are the primary typefaces for publications and communications. Montserrat is reserved for the CAETS logo and select brand assets.

In support of CAETS intent to migrate its publication processes and standards to support multilingual access and translation, CAETS fonts will also migrate as indicated in 5.3.2.

5.3 Multilingual and Translation Ready

5.3.1 Writing for Translation Readiness

Writing for translation readiness is consistent with guidance already established in CAETS Editorial Standards. But typography and layout also are critical, particularly if automated tools are used to assist with translation.

5.3.2 Typography & Layout for Translation Readiness

Automated translation tools are increasingly available for many languages. Such tools are often embedded in websites to improve accessibility for international audiences; CAETS next-generation website will increasingly support multilingual access capabilities. Similarly, online translation tools that can be used to translate individual documents are already widely available.

There are, however, steps that CAETS must take to prepare both its website and its publications for better results when translated—whether by a human, or an automated system. Many commonly available fonts do not effectively support the wide array of languages represented by CAETS member academies. Further, layouts are often affected during translation as the space required by the new text may vary substantially.

This document uses CAETS logo, header, color palette, and intended fonts from the Adobe Source family.

CAETS publications will migrate to Adobe Source Sans 3 and Source Serif 4 as its principal typefaces for CAETS publications as part of our ongoing effort to deliver translation-ready communications. Script-appropriate members of the Source family will be used where needed to support multilingual publication.

5.4 Digital Publication and Accessibility

5.4.1 Digital-First Publication

CAETS publications will be developed for digital use as the primary mode of access while remaining suitable for printing when needed. Digital publications must use appropriate document structure and navigation and preserve text quality, links, graphics, and metadata needed to support effective access, discovery, accessibility, translation, and reuse.

5.4.2 Accessibility

CAETS digital publications should support accessibility for users of assistive technologies and alternative modes of access. Document structure, reading order, headings, tables, links, images, and other content elements should be prepared so that information is not dependent solely on its visual presentation.

5.5 Publication Rights, Copyright and Licensing

CAETS-authored publications and Companion Deliverables will be published under the Creative Commons Attribution 4.0 International license (CC BY 4.0) unless explicitly waived by the Secretariat. This license enables reusers to distribute, remix, adapt, and build upon the material in any medium or format, so long as attribution is given to CAETS.

Use of third-party copyrighted material should be minimized through CAETS-generated visuals and avoidance of quotations. Where such material is essential, applicable permission, licensing, and attribution requirements must be identified and satisfied before publication. **Third-party material not covered by the CAETS Creative Commons license must be clearly identified as an exception to the license.**

6. Ongoing Management and Ecosystem Evolution

Publication is not the end of the CAETS knowledge lifecycle, nor is the Knowledge Ecosystem intended to remain static. Consistent with Core Principle 4, Adaptive Evolution, CAETS will periodically assess both the continuing usefulness of its published knowledge and the effectiveness of the systems, standards, practices, and technologies through which that knowledge is created, amplified, accessed, and applied.

6.1 Review for Currency

CAETS Knowledge Portfolios will be reviewed for currency every five years, or earlier when significant developments warrant reconsideration. The review will begin with the Foundational Publication as the authoritative knowledge base but will consider the continuing usefulness, relevance, and coherence of the Knowledge Portfolio as a whole. The Secretariat will coordinate the review and present its findings and recommended disposition to the Board.

6.2 Learning and Experimentation

Adaptive Evolution, one of the Core Principles underlying this approach, acknowledges the need to continue to adapt and evolve implementation processes and guidance to leverage new tools and new communications channels.

Tools and technologies will continue to evolve, providing new opportunities as well as new perils. CAETS must keep pace with the evolving environment and adapt its infrastructure and processes accordingly. This will typically be accomplished through piloting of emerging tools, experimentation to better understand how to optimize our publications for multilingual publication, exploration of new communications channels, and identification of new publication formats that extend our engagement with new audiences.

The Board will oversee significant changes to the implementation framework and Publication Standards. The Secretariat and Communications Committee will support ongoing assessment of the Knowledge Ecosystem, drawing on experience from Working Groups, Publication Leads, member academies, users, and other relevant sources. Changes will be proportionate to demonstrated needs and available resources and will preserve the technical integrity, institutional authority, accessibility, and traceability of CAETS knowledge.

Adaptive Evolution also encourages experimentation. New approaches may be piloted and evaluated before broader adoption, allowing CAETS to learn from experience while avoiding unnecessary disruption to established practices that are working effectively.

6.3 Evolving Multilingual Publication Capability

CAETS is committed to ongoing expansion of multilingual access, for the benefit of its Member Academies as well as to amplify the impact of CAETS' work by engaging more diverse audiences. Multilingual access will grow as technology, resources, identified audience needs and experience permit, with broad access to CAETS knowledge being the desired end state.

The **Guide for Working Groups and Publication Leads** *is a companion to this document; it provides detailed implementation guidance and downloadable materials supporting implementation of a Knowledge Initiative.*

Part I. Strategy		
Version	**Release Date**	**Summary of Changes**
1.0	22 September 2026	None
Part II. Publication Standards, Implementation & Governance		
1.1	22 September 2026	Changed required endorsement from 2/3 to 1/3