**Board Attendees**

Officers

Vedran Mornar, Croatia – 2023 President

Denis Ranque, France – 2023 Past-President

Mika Hannula, Finland – 2023 President-Elect

Ruth David, United States – Secretary/Treasurer

2022-2023 Board Members 2023-2024 Board Members

Martin Bech, Denmark Nadine Aubrey, United States

Cather Simpson, New Zealand Lucas Noldus, Netherlands

Torbjorn Digernes, Norway (absent) Andras Sollosi-Nagy, Hungary

Bob Pullen, South Africa (virtual) Jaime Dominguez, Spain

**Additional Attendees**

Oscar Vignart, Argentina Edwyn Shiell, Australia

Al Romig, United States Cath Latham, Australia

Ulrich Wagner, Germany Gerard Creuzet, France

Indranil Manna, India Axel Meisen, Canada

Katherine Woodthorpe, Australia Ben McAlinden, United Kingdom

Shane McHugh, United Kingdom

**Minutes**

CAETS President Vedran Mornar convened the meeting at 9:10 am, welcoming all participants. The meeting agenda was approved as presented. Minutes from the Board Meeting on 4 September 2023 were approved as presented.

**Secretariat Update**

Secretary/Treasurer Ruth David discussed the year-to-date 2023 Financial Status, indicating that she anticipated CAETS would end the year under budget. She noted that one member academy remained in arrears for 2023 dues. She also informed the Board that the current annual yield on the Merrill Lynch investment account had increased to 5.05 percent and that the estimated gain over the 12-month period from September 2023 through August 2024 is $12,657.12 USD.

The Treasurer then introduced the proposed 2024 Operating Budget noting the increase in projected receipts in accordance with the CAETS Dues Schedule approved in 2022; she reported that the receipts shown did not include anticipated dues from prospective new members (Poland and Singapore). She also noted the increase in the CAETS Communication Prize expense from $5,000 to $10,000 USD to provide a monetary award in addition to the $5,000 allowance for travel expenses to enable the winning entrant to participate in the Award Ceremony. She indicated that 2024 Operating Expenses for Strategy Implementation were likely to fall short of the $24,000 budget based on current information. The proposed 2024 Operating Budget was approved as presented. The Treasurer also indicated that Reserve Expenses were incurred for Visiting Committee travel to Poland, but the amount was not yet finalized.

The Treasurer briefly discussed the CAETS Rotation Schedule, which was provided with the meeting materials, noting that individuals standing for election by the Council included: President-elect – Katherine Woodthorpe, Australia; and Board Members (2024-2025) – Tian Qi, China; Rahman Bello, Nigeria; Milos Nedeljkovic, Serbia; and Igor Skrjanc, Slovenia. The call for nominees during 2024 will include: President-Elect – Germany; and Board Members (2025-2026) India, Uruguay, Sweden, Ireland.

The CAETS Dues Schedule, showing dues for 2024 – 2026, which reflected the adjustments approved by the Council in 2022 was provided for Board information.

Secretary Ruth David briefly discussed the two academies standing for election into CAETS membership: Academy of Engineering in Poland (AIP) and Singapore Academy of Engineering (SAEng). The Visiting Committee for AIP included Vedran Mornar, CAETS President; Denis Ranque, CAETS Past-President; and Ruth David, CAETS Secretary/Treasurer. The Due Diligence Committee for SAEng included Lucas Noldus, CAETS Board; Cather Simpson, CAETS Board; and Ruth David, CAETS Secretary/Treasurer; due to scheduling challenges, this activity was conducted virtually but an in-person visit is planned. Summaries of the due diligence efforts provided with the meeting materials recommended election of both academies. She also provided an analysis of the position of each academy within the CAETS Dues Structure, noting AIP would fall in the $1,500 tier and SAEng would fall in the $6,500 tier. The Board endorsed recommending these amounts to the Council for initial dues.

**Potential Working Group on Artificial Intelligence**

The Secretary reported that she hosted a Zoom meeting on 26 September, engaging member academies that had expressed interest in formation of a new Working Group on Artificial Intelligence. The following member academies participated in the meeting: Argentina, Australia, Czech Republic, Denmark, Ireland, Japan, New Zealand, Nigeria, United Kingdom, United States, Uruguay. She noted that both prospective new member academies (AIP and SAEng) also expressed interest in the topic, as have other CAETS member academies not represented during the meeting.

During the Zoom meeting, each academy was invited to briefly describe their interests in the topic and to identify benefits to CAETS as well as to broader international audiences. A range of potential interest areas emerged including: Ethics/Responsible Use/Trustworthy AI; Applications in Engineering Education (improving learning outcomes); Implications for Future Workforce (education needs); Informing “good” legislation (advising policymakers); Medical Applications (issues around data sharing/protection); Governance/Impacts on Society; Responsible Communication of AI.

Following a rich discussion of potential areas of impact, participants agreed that the best starting point would be to focus in information sharing among the member academies. Acknowledging that the AI is both widely applicable across diverse domains and very rapidly evolving, participants indicated that investing the time up front to learn from each other was likely the most productive way to find common ground and identify areas in which CAETS might have broader impact.

The Secretary indicated that she believed CAETS should establish a Working Group on this broad topic and that the first steps would include identification of leadership for the group and solicitation of participation from additional member academies. The Board endorsed this course of action.

**Committee/Working Group (WG) Updates**

Communications Committee: Chair – Lucas Noldus; Deputy Chair – Cather Simpson

The Chair provided an overview of the committee, introducing the Deputy Chair, and noting the exceptional staff support provided by ATSE (Australia). He observed that 19 member academies are currently represented on the committee and that it would be good to have representation from all member academies. The full committee meets quarterly, and committee leadership/staff meets monthly.

The Committee’s work plan is guided by its charter as provided in CAETS Operating Guidelines, with increasing emphasis on sharing communication best practices among CAETS member academies.

The Chair described the 2023 Communication Prize process and outcomes, noting that the winner would participate in the Award Ceremony scheduled at the end of the 1st day of the Technical Symposium.

The Chair also noted the need to strengthen connections between CAETS Working Groups and the Communications Committee going forward, emphasizing the need for early and ongoing interactions regarding any proposed CAETS publications.

Finally, he noted that the Deputy Chair, Cather Simpson, intended to resign at the end of the calendar year, so a new Deputy is needed to fulfill that role for a year and then to succeed him as Chair.

Diversity and Inclusion (D&I) WG: Chair – Shane McHugh

The Chair reviewed the findings and recommendations from 2022 and noted that the major purpose of this WG is to share best practices and promote learning among member academies. He noted that a draft database of CAETS members’ D&I strategies, work plans, and policy papers was being developed and would go live later this year. A major action for 2024 is the collection of baseline D&I data from each academy. An annual survey has been distributed to all CAETS academies; results will guide selection of future meeting topics.

The Chair noted that RAEng (United Kingdom) has chaired the group since 2018 and that a Deputy Chair is needed who subsequently would assume the Chair position.

Energy Sequel WG: Chair – Axel Meisen

The Chair noted that the motivation for this effort was to extend the timeline beyond 2040 as considered in the 2022 CAETS Energy Report “*Towards Low-GHG Emissions From Energy Use in Selected Sectors*.” Specifically, the critical question to be answered is “What actions need to be taken now and in the near future to ensure that enough technologies are available and realistically deployable to ensure low-GHG emissions from energy use in the selected sectors beyond 2040?” A Foresight methodology is being used.

The Chair indicated that while member academies have been invited to identify representatives, additional participation would be welcome. The intent is to have a draft report ready to present during CAETS 2024.

Engineering Education (EE) WG: Chair – Indranil Manna; Deputy Chair – Katherine Frase

The Chair noted that the 22 member academies actively participate in the EEWG and additional academies have expressed interest.

Overall objectives for the WG are: (i) to create a community across the academies to be able to determine common points of interest concerning status updates on the current framework and priority areas; (ii) to create reports of best practices and policy recommendations to address the concerns and challenges perceived by our member academies in Engineering Education; (iii) to author specific reports related to education delivery methods (physical, virtual, simulation, hybrid); sustainable development goals, engineering ethics, technology forecasting, and engineering pipeline/demographics; and (iv) to develop a virtual platform for networking to facilitate cooperation and collaboration on engineering education among the member academies.

Immediate goals include: to learn from one another; to create advisory and policy guidance to assist Member countries and potentially at an international level to improve the engineering education ecosystem; discussions including topics on pedagogy, technology, equity/diversity/inclusion, ethics, and international cooperation.

Engineering for the Sustainable Development Goals (SDGs) WG: Chair – David Thomlinson

Ben McAlinden provided the presentation on behalf of the Chair. He reported that the WG continues to meet as a forum for cross-academy exchange on how engineers can help achieve the SDGs. The WG focuses on SDG 6 – Clean Water and Sanitation; SDG7 – Affordable and Clean Energy; SDG 9 – Industry, Innovation, and Infrastructure; SDG 11 – Sustainable Cities and Communities; and SDG13 – Climate Action. The overall purpose of the WG is to promote and advance the pivotal role of engineering in achieving the SDGs.

A primary goal for the WG is to stimulate exchange between CAETS member academies on respective actions and initiatives that address the SDGs; a secondary goal is to inform CAETS’ voice on sustainability and the SDGs by developing external-facing outputs to be published by CAETS.

While a core membership exists, including representation from 13 member academies, invitations to WG meetings are being extended to additional members, fellows, and awardees of CAETS member academies to increase participation. Additionally, since RAEng has chaired this WG since 2018, succession planning for a leadership transition is underway.

**CAETS Report Generation Lifecycle**

This session was motivated by the apparent need for a clearly defined process for generation and publication of CAETS outputs. Key discussion points included:

* Development of rigorous principles for effective project design, governance, transparency, and quality control, building on any existing guidance within CAETS.
* A process to capture and manage conflicts of Interest (i.e., of authors, contributors, etc.) within projects.
* Stringent requirements for diverse participation in such projects (including diversity of gender, career stage, geography, and professional background).
* Clear definition of objectives and intended outcomes of projects, and an indication of how impact will be measured.

Four member academies, each of which has extensive experience in development and publication of reports, position papers, etc., were invited to describe their respective processes and key issues that must be considered. Presenters were:

Australian Academy of Technological Sciences & Engineering: Katherine Woodthorpe

Royal Society Te Aparangi (New Zealand): Cather Simpson

Royal Academy of Engineering (United Kingdom): Sarah Springman; Ben McAlinden

National Academy of Engineering (United States): Al Romig

Variations existed in the specific processes, but common ground was evident in key areas:

* All reports must have a clearly defined purpose prior to initiation (Why are we doing this? What value are we adding to the conversation? Who is the target audience? How will we measure impact?)
* Communications approach/expertise must be embedded from the start.
* Diversity (multiple dimensions) of the report development team is critical.
* Potential conflicts of interest must be identified and managed from the start.
* Technical review must be independent from report authors (and independently adjudicated).

Following discussion, the Secretary took an action to map the various timelines for review by the presenting academies and to work with the Communications Committee to develop a process that addresses the entire lifecycle for CAETS publications.

**New Business**

Lucas Noldus raised the issue of the transition underway from the Netherlands Academy of Technology and Innovation (AcTI) to the Netherlands Academy of Engineering (NAE) and its potential impact on CAETS membership, emphasizing that EuroCase had already agreed to a seamless transition of membership. During its September meeting, the Board discussed this transition and agreed that a discussion between the CAETS Board and the NAE Board would be beneficial. After discussion the Board agreed to recommend to the Council that a seamless membership transition from AcTI to NAE would be announced, contingent upon Board agreement subsequent to the discussion with the NAE Board.

There being no further business, the meeting was adjourned at 12:10 pm.