



# IEEE Systems Council 2022 Strategic Plan



## Table of Contents

- I. Executive Summary
- II. Conferences
- III. Education
- IV. Finance
- V. Member Services
- VI. Publications
- VII. Technical Operations
- VIII. Governance

### I. Executive Summary

This document represents the latest version of the Strategic Plan for the IEEE Systems Council. It is intended to be a living document that allows Systems Council officers to help guide the Council as we move forward in our quest to serve our Member Societies, Affiliate Members, those of IEEE, and the overall community addressed in the Systems Council Field of Interest. The following statements of Vision; Mission; Equity, Diversity, Inclusion, and Belonging; and Core Values help set the stage for our overall strategy.

#### **Vision**

To be recognized by the technical community of systems engineers as the leading systems-engineering organization in the world.

#### **Mission**

The IEEE Systems Council promotes, encourages, and supports the technical, academic and application aspects of systems engineering and systems thinking through its own activities, and with its Member Societies through joint activities for the growth of both Member Society membership and Council Affiliate membership, and for addressing overall global challenges.

#### **Equity, Diversity, Inclusion, and Belonging**

IEEE's mission to foster technological innovation and excellence to benefit humanity requires the talents and perspectives of persons with various personal, cultural, and disciplinary backgrounds. As is IEEE, the Systems Council is committed to advancing diversity in the technical profession, and to promoting an inclusive and equitable culture in its activities and programs that welcomes, engages and rewards those who contribute to the field without regard to race, religion, gender, disability, age, national origin, sexual orientation, gender identity, or gender expression. In short, the Systems Council is committed to creating a Culture of Belonging for everyone.

#### **Core Values**

- **Partnership and value for Member Societies:** The IEEE Systems Council aims to provide services and products to its IEEE Member Societies for the benefit of their members and technical societies as a whole. This is being pursued by building long-lasting partnerships and by creating value for the Member Societies and for their members.

## IEEE Systems Council 2022 Strategic Plan

- **Value for the technical community:** The IEEE Systems Council aims to be recognized as the leading organization providing value in systems engineering for the engineering and academic professions.
- **Geographic diversity:** The Systems Council will actively seek, and share, the benefits associated with, and resulting from, the cross-cultural contributions of engineers and technical experts, working in diverse continents and areas in the world.
- **Research-based services and products:** IEEE is the recognized world leader in the majority of the areas within engineering, computing, and technology information. One of its strengths is to provide services supported by state-of-the-art scientific results. The Systems Council promotes and encourages usage of state-of-the-art techniques in systems engineering, based on the outcomes of research activities.
- **Empowering the new generation of systems engineers:** The Systems Council promotes the involvement of young engineers in all its activities.

In addition to the specific actions and goals in the following sections of this plan, the Systems Council has an overall objective to promote and participate in multi-society/council and multi-association activities in support of mutual activities and objectives by the following:

- Looking for potential opportunities to initiate new conferences, individually or with co-sponsors, as appropriate.
- Sponsoring—individually or jointly, as appropriate—new journals and magazines in important emerging areas of common interest.
- Maintaining a Distinguished Lecturer (DL) Program, and offering our DLs to chapters of Member Societies.
- Developing Standards.
- Looking for areas of common interest and opportunities.
- Engaging in a joint-technical-community approach.

## II. Conferences

**Mission:** The mission of Systems Council Conferences is as follows:

- Enable the conduct of high-quality conferences, symposia and workshops.
- Produce high-quality technical content to serve members of the Systems Council's Member Societies and our technical community.
- Facilitate the generation of reasonable surplus while maintaining high overall quality.
- Refine and promote best practices in planning and managing Systems Council conferences.
- Explore new conference-delivery mechanisms.

**Objective:** The Systems Council's strategic plan for conferences should focus on refining and promoting best practices in planning, managing, handling publications related to, and financing our existing conferences, and determining whether any new conferences could be initiated to support the Council's Member Society membership and our overall technical community. As the Council's formal individual members are quite small in number, our conference strategy is to partner with Member Societies.

The Systems Council has identified the following elements as critical to our continued performance with respect to conferences:

- Strengthen the areas of setting up conferences to ensure that we preserve the IEEE name brand, conduct quality conferences, produce quality proceedings, and provide a financial benefit to both IEEE and the Council. Key elements of these practices include:
  - Making sure that a competent memorandum of understanding (MOU) exists, through which we have co-sponsors, and that the MOU clearly delineates the responsibilities of each party.
  - Generating a budget that is realistic, and that produces a minimum of 20% surplus.
  - Producing Conference Publications that are of high quality, and that maintain the reputation of the conference, the Council, Member Societies of the Council, and IEEE.

### Short-Term Actions:

- Review all conference budgets for opportunities to reduce expenses.
- Strengthen the Systems Council Conference involvement of Member Societies of the Council, encouraging new Systems Council AdCom members to participate in conference committees within their areas of interest.
- Encourage all TC chairs to work with their TC members to develop special sessions (with papers) for our flagship conferences.

## IEEE Systems Council 2022 Strategic Plan

- Create, publish and maintain a conference-operations guidebook as a supplement to the IEEE Conference Organizer's Manual, and ensure that our conferences follow the IEEE guidelines and the Systems Council's conference guidebook by making them available to all organizers of Systems Council conferences.

### **Three-Year Goals:**

- Seek additional cooperative conference-engagement opportunities with Member Society conferences; examples of such opportunities include sponsoring a track or tutorial, or even a full conference.
- Increase technical co-sponsorships where there is a mutual benefit to the Systems Council and the other sponsoring entities, either IEEE or non-IEEE.
- Increase the conference surplus returned to the Systems Council by having the organizers of each conference work with, and be monitored by, the Systems Council Conference Committee with regard to costs and expenses.
- Ensure that all conference chairs follow the Systems Council's conference guidelines.
- Ascertain that all Systems Council conferences are of the highest technical quality and standards.
- Seek new tutorial topics and authors to provide greater technical content to attendees and increase tutorial attendance. Approaching existing DLs to provide new tutorials should be considered.

### III. Education

**Mission:** The mission of the Systems Council Education activity is to do the following:

- Coordinate the educational activities of the Council to provide timely, relevant and interesting educational topics and delivery methodologies to our Member Societies.
- Provide the means to deliver high-quality Distinguished Lectures and tutorials to our audience.
- Address the needs of emerging engineers.

**Short-Term Action:**

- Investigate the possibility of the present SysC Ad Hoc Education Committee evolving to a standing Education Committee, with the attendant inclusion of the position Vice President–Education as an officer of the SysC.

**Three-Year Goals:**

- Grow the Distinguished Lecturer (DL) Program.
  - Make the budget go farther by perfecting the 50%-share plan and by making effective use of virtual DLs, using modern video-conference techniques.
  - Issue calls for DL nominations.
  - Expand the DL Review Committee to include reviewers with expertise in diverse systems domains who would review and assist in improving proposed talks.
  - Suggest that our Chapters invite their respective IEEE Sections to DL talks.
  - Where practical, coordinate potential talks at local universities with DL commitments.
  - Select new DLs to improve the global distribution of our lecturers.
  - Stipulate that membership as a DL requires at least one tutorial to be produced for the SysC website during that DL's tenure.
  - Have Chapter chairs submit contact information, biographies, and abstracts of candidate lecturers within respective Chapters so that the DL Program may review them and thereby expand the DL offerings.
  - Review DL participants at least every three (3) years and drop those who are inactive or whose material is too out-of-date.
  - Maintain a Systems Council Overview that each DL will use as an introduction for her or his lecture.
  - Ensure that the host distributes information on upcoming conferences and current publications to meeting attendees.
- Continue expanding the tutorial programs for our conferences and our SysC website.
  - Ask the Technical Committees, Chapters and Conferences to broaden the tutorial topics, which are now related predominantly to systems engineering. Encourage the Technical Committee chairs and the Chapter chairs to solicit tutorials not only for our conferences, but also for the SysC website.

## IEEE Systems Council 2022 Strategic Plan

- Approach people providing tutorials at Systems Council-sponsored conferences and at similar conferences sponsored by the Systems Council's Member Societies as potential tutorial lecturers for the Council.
  - Consider authors of the IEEE Systems Journal articles for potential tutorials for our conferences and the SysC website.
  - Establish, for our SysC website tutorials, a pricing policy directed to not only IEEE SysC members, but also IEEE non-SysC members, students, and individuals from underdeveloped countries.
  - Incorporate CEU/PDH credits into our SysC tutorials program, working with the IEEE Resource Center to establish a pricing policy.
  - Publicize the tutorial program to both undergraduate and graduate students.
  - Continue to work with the IEEE Resource Center to investigate new technologies for the development of improved and high-quality tutorials as a product.
  - Investigate the production of free webinars for the SysC website for presentations not otherwise suitable as tutorials.
- Develop a compendium that provides useful links to existing open-source educational information (e.g., appropriate courses on Connexions [<http://cnx.org/>]; <http://www.radartutorial.eu>; and others) where systems engineering is a focus.
  - Maintain the James O. Gray Scholarship (for graduate students) and companion Systems Council Scholarship (for undergraduate students) activities.
    - Ensure that adequate publicity is established, especially at our conferences and in our publications, to make the scholarship known to the IEEE community in general.
    - Conduct the nomination/submission and award process in a manner that ensures integrity and fairness to all applicants.
    - Notify and publicize scholarship award winners in a timely manner.
  - Work with the Systems Council Young Professional (formerly GOLD) members to develop programs for our younger members. These could include the following:
    - A program modeled after the DL program but developed by our younger members for younger members.
    - Financial support and mentoring for projects (e.g., a student UAV program).
    - Making tutorials at our conferences available to Young Professional members via recorded webinars.
    - Putting together a package of material that includes test cases of successful and unsuccessful engineering.

## IV. Finance

**Mission:** The mission of the Finance Committee is to develop and manage a budget that will do the following:

- Allow the Systems Council to deliver the types of services and benefits to our Member Societies and members of our professional community that are in keeping with the overall goals and objectives of the Council and IEEE.
- Generate a reasonable surplus to keep the Council solvent and vibrant, and allow for expansion of our activities as needed.
- Provide adequate funds for activities and new initiatives to better serve the Member Societies and Affiliates of the Systems Council.
- Provide timely financial assessment to assist officers in managing their areas.
- Provide feedback to the Systems Council AdCom regarding IEEE financial operations and information.

### Short-Term Actions:

- Report to the AdCom regarding expenses and revenues associated with technical committees (TCs), DLs, tutorials, conferences, publications, and similar activities.

### Three-Year Goals:

- Maintain strong communications with IEEE conference and publications organizations.
- Maintain a focused and accurate budget-planning methodology.
- Track expenses and revenues associated with all publications and conferences to understand the financial impact.
- Work with Conferences to increase the surplus returned to Systems Council.
- Include checks and balances in the process to improve the planning of Systems Council activities, and to protect its surplus.
- Seek additional sources of revenue (e.g., corporate partnerships).

## V. Member Services

**Mission:** The mission of Systems Council Member Services activity is to provide member services and benefits that attract and retain Society and Affiliate members.

### Short-Term Actions:

- Hold at least one Chapter Chairs Summit annually, in conjunction with a Systems Council conference, providing partial financial support for Chapter chairs to attend.
- Provide two annual Chapter Chair Awards, one for Systems Council regular chapters, and one for student chapters.
- Maintain the following committees to support Member Services:
  - Chapters
  - Senior Members
  - Industry and Industry Professionals
  - Cooperation (with IEEE and non-IEEE entities)
  - Equity, Diversity, Inclusion, and Belonging
  - Women in Systems Engineering (WISE)
  - Young Professionals
  - Ad Hoc Education Committee
- Invite all new Systems Council Affiliate members to participate in Council events and activities via a member “Welcome Letter” email from the Council President.
- Using the OU Analytics database available to us for all Member Societies, seek new Affiliate members that have Systems Council-related Technical Interest Profile (TIP) Codes.
- Provide information on becoming a Systems Council Affiliate to attendees at all technically and financially sponsored conferences worldwide, as well as flagship conferences of our Member Societies where allowed, by creating a single-page document that describes the Council and its activities and depicts how to become an Affiliate.
- Implement the suggested Council awards program and seek nominations for each award.
- Ensure that the Fellows Identification Committee pursues Senior Members for potential elevation to the grade of Fellow.
- Update “IEEE Systems Council History” at [https://ethw.org/IEEE\\_Systems\\_Council\\_History](https://ethw.org/IEEE_Systems_Council_History). In addition, gather and include basic historical information about the SysC, such as lists of positions of service, who has served, and the periods of service; a list of prior conferences, with dates and locations; and a list of tutorials presented, including the respective presenters, conferences, dates and locations.

**Three-Year Goals:**

- Maintain close liaison with Chapters, and engage chapter members in Systems Council technical committees, events and activities.
- Promote formation of new Systems Council chapters or Joint Society Chapters with other IEEE Society Chapters to serve members where no Council chapter exists.
- Promote the concept of Council chapter participation in organizing conferences, workshops, tours, student activities, short courses, etc., by providing resources to chapter officers. Provide resource links as developed by the TA-MGA Ad Hoc Committee on Chapter Support to all chapter officers.
- Provide information to grow Systems Council Affiliate membership by 1% per year. Send information on becoming a Systems Council Affiliate to universities with Systems Engineering programs.
- Increase Affiliate and Society member participation in our activities and events by welcoming those interested in participating, announcing our specific needs for volunteers, and sending monthly e-mails to those who opt in.
- Recruit Student Members to full membership upon their graduation.
- Offer assistance to Affiliate and Society members for elevating to the next grade.
- Expand the use of social media to promote the Council's activities and events.
- Investigate the formation of a committee (e.g., Social Media and Outreach Committee) to address the issue and aspects of advancing the Systems Council on social media. Give consideration to eventually adding an attendant Officer position.
- Create a Wikipedia site for the IEEE Systems Council.

## VI. Publications

**Mission:** The mission of Systems Council Publications is to provide the technical community with scholarly, highly regarded publications that support their professional growth and advancement. Publications will provide venues for publication of scholarly achievements, knowledge for the specialist, education for the non-specialist, and information for our professional community.

Systems Council Publications will pursue the following strategic vision for its publications:

- *Journal* articles are relevant, timely, technically advanced, and highly regarded among professionals in our field.
- *Tutorials* are a useful, informative, and timely resource for the professional growth of our members.
- *Quarterly Newsletter* provides new and timely information to support our members' involvement in our professional community.
- *Systems Council Website* is a one-stop shop for Council information.

### Three-Year Goals:

- Reduce the average submission-to-publication delay to 12 months for the Systems Journal and the IEEE Journal on Miniaturization for Air and Space Systems (J-MASS).
- Increase the contributions to the Systems Journal from industry by 50%.
- Monitor and improve paper review and acceptance policies to sustain the journals' quality and enable the Council's journals to become the reference journals in systems engineering.
- Increase readership (opens) of the Quarterly Newsletter by 10%.
- Increase visits to the Council website by 10%.

### Publications Initiatives:

- Manage term-limit requirements for Editors-in-Chief of the Systems Journal, currently a three-year term, renewable once.
- Continuously identify potential candidates for the position of Editor-in-Chief.
- Provide experience and training for potential Editors-in-Chief, and develop Senior Editors and Associate Editors, as appropriate.
- Increase the presence of student activities in the Journal. Examples include use of student editors, and encouragement of student submissions.
- Continually seek to improve the operation of the editorial board for the Journal.
- Increase industrial participation in the Systems Journal.

## VII. Technical Operations

**Mission:** The mission of Systems Council Technical Operations is to form and maintain Technical Committees (TCs) in the Council's field of interest to stimulate technological advances and member engagement in technical networking, standards development, publications, conferences, chapter meetings, and other professional-development activities.

### Three-Year Goals:

- Review all TCs for relevance, activity and leadership.
- Seek revitalization of those TCs that may be dormant or lagging, and drop those TCs whose relevance or currency has expired.
- Identify topics and potential leaders for new areas within our Field of Interest where technical collaboration would be beneficial.
- Promote collaboration among TCs and local IEEE chapters and Member Societies.
- Promote formation of new SysC Technical Committees or Joint SysC TCs with other IEEE Society TCs.
- Periodically review each TC to ensure that activities are performed, and that the activities are aligned with the TC's established purpose and objectives and with the TC's strategic goals.
- Develop guidance in the specific areas of the TC expertise in the form of best practices, methods and tools.
- Promote synergy and collaboration among the educational activities to develop continuing professional development modules for each of the TC areas of expertise.
- Engage TCs to help develop new content for our conferences and help populate special sessions.
- Expand Technical Committee participation by having each potential member first join as a member of a Technical Community before being accepted as a member of a particular Technical Committee.
- Nominate members for various Council and Field awards.

## **VIII. Governance**

**Mission:** The mission of Systems Council Governance is as follows:

- Provide the operating framework for all Council activities.
- Assist officers in managing the Council’s business areas in a professional and consistent manner.

**Three-Year Goals:**

- Review governing documents to ensure continued compliance with all IEEE policies and incorporation of all required aspects (i.e., “must-haves”).
- Review governing documents with analysis to improve Council operation, as needed.
- Ascertain that all officers understand their responsibilities per the governing documents, and that they abide by all provisions therein.
- Improve the awareness of the Systems Council’s governing documents by our Member Societies.