



# **IEEE Sensors Council**

## **2023 – 2027 Strategic Plan**

Listing Short Term Actions and  
Long Term & Continuity Goals



Approved by AdCom on 27 Nov 2023

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## I. Executive Summary

**Introduction** - The Sensors Council Strategic Plan 2023-2027 covers Short Term Actions (0-2 years, scheduled for delivery through the companion Operations Plan document) and Long Term & Continuity Goals (0-5 years and ongoing respectively). Both are recognizing of the principles and goals of the IEEE Strategic Plan 2020-2025. The Council Strategic Plan and Operations Plan are living documents continually monitored, updated and fine-tuned under the direction and actions of the Council's Strategic and Operation Plan Committee (SOPC) chaired by the President-Elect. Both documents will enable the Sensors Council leadership to deliver actions enabling the Council to:

- (i) serve its Participants (Councils do not have Members in the same way that Societies do, hence in this document the term 'Participants' is used to describe those individuals who benefit from, engage with and contribute to the Council's range of activities);
- (ii) support and collaborate with its Member Societies;
- (iii) support the rest of the IEEE and the wider community working in the Sensors Council Field of Interest.

The following statements of Mission; Vision; Values; Welcoming, Supportive and Rewarding Ethos help set the stage for the Council's overall strategy and direction of travel.

**Mission** – The Sensors Council's mission is to serve as a bridge encouraging broader participation among a global, multi-domain, interdisciplinary community of students, professionals, and practitioners who specialize in sensors and their deployment in a wide range of applications.

**Vision** – To be the focal point for high-quality knowledge sharing and to connect the sensors community to network, collaborate, and communicate information for the betterment of the field, and to solve global problems for the benefit of society.

**Values** – The Sensors Council has adopted the values listed below which guide our actions towards our community and discipline.

1. Excellence: we will strive to achieve the highest standards in all our activities and outputs
2. Collaboration: we will support our community towards working together with integrity and in a respectful way
3. Integration: we will work hard and be uncompromising in achieving distribution of opportunity for all talents within our community
4. Enthusiasm: we will foster an energetic community where all will have passion, a sense of ownership and pride in being part of the Council
5. Relevance: we will be a guiding light for our discipline, and support our community by sharing world-leading discoveries and knowledge, and applying these to address common challenges facing all of humanity

**Welcoming, Supportive and Rewarding Ethos** - IEEE's mission to foster technological innovation and excellence to benefit humanity requires the talents and perspectives of individuals with various personal,

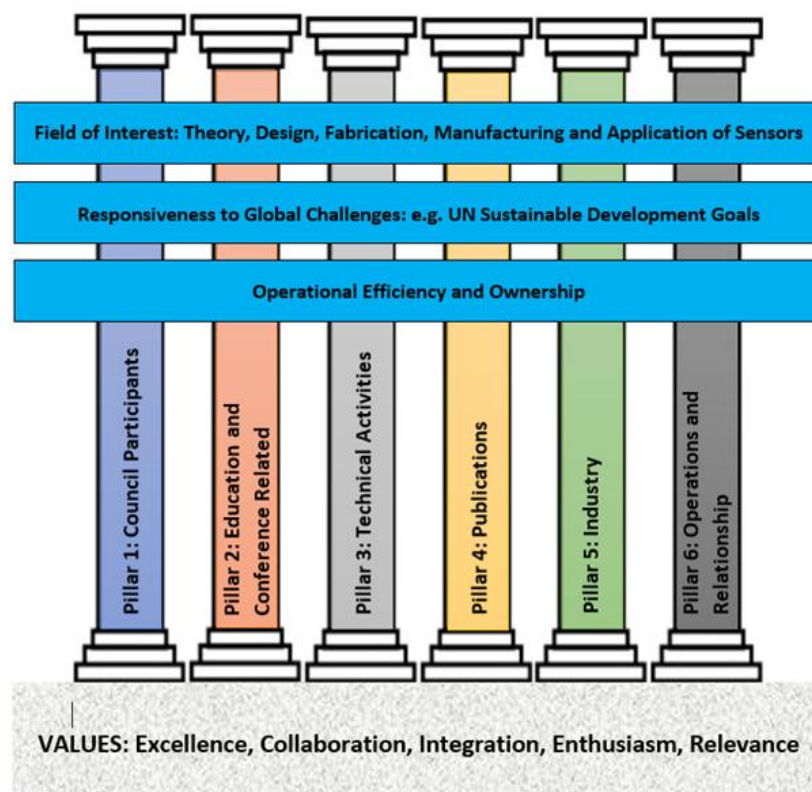
cultural, and disciplinary backgrounds. In common with the IEEE, the Sensors Council is committed to advancing broader participation in the technical profession, and to promoting a culture empowering all talents in its activities and programs that welcomes, engages and recognizes those who contribute to the field.

**Field of Interest** - The IEEE Sensors Council focuses on the theory, design, fabrication, manufacturing, and application of devices for sensing and transducing physical, chemical, and biological phenomena, with an emphasis on the electronics, physics, and reliability aspects of sensors and integrated sensor-actuators. IEEE Sensors Council serves the sensor community with its well-recognized publications, conferences, and technical committees.

**Global Challenges** – Sensor technologies can contribute to providing solutions to address global challenges including, but not limited to, climate change, decarbonization, clean environment, health, food production, security, sustainable production and manufacture. Through its range of activities, the Sensors Council will continue to promote sensor technologies to address current and emerging challenges.

## II. Sensors Council Strategic Pillars

The graphic below shows the Council’s six strategic pillars together with cross-cutting activities built on a foundation of the Council’s values.



The Council's strategy, activities and actions have been grouped under the six pillars listed below, where they are further sub-divided into strategic goals and then categorized into Short Term Actions or Long Term & Continuity Goals as defined in the Executive Summary. The timelines and resource implications for the Short Term Actions are detailed in the companion Operations Plan. Long Term & Continuity Goals would be due for completion at different dates over the five years 2023-2027 and beyond respectively, and many of them are already in progress.

### **Pillar 1: Council Participants (Main Values: Integration, Enthusiasm)**

*(In the notation used from here on, SG stands for Strategic Goal)*

A robust, engaged global community of choice supporting and empowering all individuals with technical interests in sensors receive access to opportunities and solve challenges in a collaborative rather than competitive environment regardless of their economic means or origin.

#### **SG 1.1: Global community engagement**

Short Term Actions:

- Provide DL speakers in all regions and institutions (collection of multiple speakers or workshops)
- All SC conferences have a chapter chair summit from all geographic areas
- Incentivize registration and offer discounted rates to targeted groups
- Strongly encourage DL speakers to go to all areas during their term
- Expand educational activities by mining international authors and inviting them to do webinars
- Deliver events in all areas

Long Term & Continuity Goals:

- Investigate the requirements of Council participants using surveys every 4-5 years. Most recent survey was in 2023. Owner: ExCom, C&E Committee
- Gain loyalty and commitment from all volunteers, and provide incentives and recognition. Owner: ExCom and C&E Committee

#### **SG 1.2: Member Society Engagement**

Short Term Actions

- Find a way to integrate Member Society inputs into strategic initiatives pre- during- and post-launch.
- Provide top-notch keynote speakers to Member Societies, get suggestions from Societies
- Offer additional discounts to Member Societies to participate in SC conference
- Help with educational programs providing expertise, DLs

- Develop a platform for Member Society AdCom representatives to provide us with feedback on best practices
- Obtain Member Society advice and collaboration to set up multi-sectorial communities and Technical Committees

## **Pillar 2: Education and Conference Related Activities (Main Values: Excellence, Relevance)**

We provide high quality, intellectually stimulating, topic-specific educational events, workshops, and conferences that are meaningful, impactful, inspire, and inform, and are recognized and appreciated by the community as the premier place for sensors technical professionals to present, learn, discuss, and develop deeper relationships.

### **SG 2.1: General Education**

#### Short Term Actions

- Create open, online courses on sensors
- Put high quality tutorials on the website
- Create a target list of papers (mine database) then invite them to create webinars or tutorials
- Take advantage of digital platforms to support educational activities and promote sustainability

#### Long Term & Continuity Goals:

- Establish the links between various educational activities delivered at conferences with publications and technical activities to have a seamless operation. Owners: Educational Activities Committee and Conference Organizers
- Greater integration of digital technologies and digital platforms into SC business e.g. adapt JCS platform to assist to organize webinars. Owner: Educational Activities Committee

### **SG 2.2: General Conference**

#### Short Term Actions

- Choose venues carefully and incorporate sustainable practices at core
- Make early announcement of plenary speakers and themes related to Global Challenges
- Make information about social programs accessible in advance
- Provide good networking opportunities, including with industry
- Detail typical spend for attending SC event including registration fee, cost of time, travel expenses

#### Long Term & Continuity Goals

- Expand number of conferences (fully owned and co-sponsored). New conferences have already been added to the Conference portfolio since 2021. Owner: Meetings Committee

- Select all regions for conference venues. This has already been initiated with APSCON held in India. Owner: Meetings Committee
- Journal Conference Synergy (JCS). Continue to strengthen journal to conference and conference to journal dissemination for benefit of presenters and Council. Successful examples of JCS have already occurred during 2023. Owner: JCS Committee
- Reduce the number of withdrawals and 'no-shows'. Owner: Meetings Committee
- Set up strong and representative Steering Committees for conferences. This is already in progress with several of Council's conferences e.g. INERTIAL, FLEPS, BioSensors, APSCON, SIM. Owner: Meetings Committee
- Increase industrial participation in conferences including new exhibitors and sponsors. Good progress on this e.g. INERTIAL conference, and need to make other conferences more attractive to industry participants. Owners: Meetings Committee & Industry Liaison Committee

### **SG 2.3: Conference Partners**

#### Short Term Actions

- Engage with other industry associations
- Reach out to the larger community that are not part of IEEE or SC
- Ask member societies to organize tracks in SC conference
- Consider creating a platform for industry

#### Long Term & Continuity Goals:

- Support events in partnership with undergraduate and pre-University student clubs/societies to encourage STEM and expand reach of the SC. Owner: Young Professionals

### **Pillar 3: Technical Activities (Main Values: Excellence, Collaboration, Relevance)**

Our technical activities are delivered and supported by the best professionals in the sensors field and advance the highest quality, most trusted research to our global participants, ranging from students to leaders in the field while paying special attention to giving opportunities to all by encouraging broader participation.

#### **SG 3.1: Future Focus**

#### Short Term Actions

- Focus Sensors Council on identifying emerging topics and trends and establish an ongoing scout team to look for hot topics.
- Industry engagement at chapter level (leadership, events)
- Establishing YP, WiSe, C&E at grassroot level (such as Chapter level)

#### Long Term & Continuity Goals:

- Support formation of new chapters while ensuring existing chapters are active and supported. Owner: Chapter Engagement Committee
- Support WISE activity e.g. workshops, seminars, invited speakers. Owner: WISE Committee
- Support a comprehensive global engagement activity and encourage all participation while empowering all talents. Owner: Collaboration & Engagement Committee.
- Support Young Professionals (YP) activities and provide guidance and support for YPs to enter into other Sensors Council Committees. Owner: YP Committee
- Support the Standards Committee and highlight all successful work relating to standards. Owner: Standards Committee
- Support the formation and impact of Technical Committees, and increase their number. One Technical Committee has already been established in 2023. Owner: VP-Technical Operations

#### **Pillar 4: Publications (Main Values: Excellence, Collaboration, Relevance)**

We hold our highly desirable, timely journals and publications to the highest editorial standards, and provide meaningful, agile, relevant, high-impact, accurate information that is frequently cited and recognized as leading the sensors field and provide them to industry, researchers, developers, and the public.

##### **SG 4.1: General Publications**

###### Short Term Actions

- Examine having a “sensors application” and “biosensors” publication
- Evaluate all publications and quantify their impact, reputation, cost, and relevancy. Sunset if necessary
- Evaluate for quality, turnaround time for peer review (sub-pub)
- Evaluate dissemination and accessibility
- Grow OA journals portfolio

###### Long Term & Continuity Goals:

- Continually monitor publications landscape and trends, and regional considerations such as submission rates, editorial boards, journal leadership. Owner: Publications Committee
- Brainstorm and invite ideas for new Council publications, fully owned or co-sponsored. Examples include Global Challenges related. Owner: Publications Committee

#### **Pillar 5: Industry (Main Values: Excellence, Collaboration, Relevance)**

We involve and engage industry professionals in an open, meaningful, mutually beneficial exchange on issues that are academically and practically helpful, while we deliver technical standards, processes, and specific products to meet the needs of researchers, developers, executives, and field engineers, as well as their customers and suppliers.

##### **SG 5.1: Meeting Industry Needs**



### Short Term Actions

- Examine publishing application notes, we could be this new publication vehicle
- Explore developing tradeshow type events
- Conduct a study to identify the consultant who could connect the SC with different size of industry. Do we understand how to create added value for industry?

### Long Term & Continuity Goals:

- Engage with industry to explore opportunities for continuous education programs. Owner: Industry Liaison Committee

## **Pillar 6: Operations and Relationship with IEEE (Main Values: Collaboration, Relevance, Enthusiasm)**

We maintain lean, distinct, minimally overlapping, efficient operations that are volunteer driven in combination with professional staff support, and we have a synergistic, collaborative relationship with IEEE and the societies who interact with us that are mutually valued, productive, win-win, and growing.

### **SG 6.1: Governance**

#### Short Term Actions

- Establish a “Future Leadership Task Force”
- Develop a standardized reporting process for committees and chapters to use
- Ease transitions by standardizing processes and communications
- Establish metrics for success for committees and chapters, consider ‘Outstanding Committee Award’
- Define membership rules on our committees to make sure we have truly multi-national and balanced representation (existing committee vs new faces)
- Define ExCom responsibilities (task completed October 2023) C&B Committee

#### Long Term & Continuity Goals:

- Ensure that constitution, bylaws, operations manual and strategy are relevant and updated. Owner: Secretary/Treasurer

### **SG 6.2: Efficiency and Finance**

#### Short Term Actions

- Analyze activities and cut down ones that do not have an impact. Give volunteers some of their time back

#### Long Term & Continuity Goals:

- Deliver a carefully considered budget to IEEE Finance and generate an operating surplus to enable investment through New Initiatives. Owner: Finance Committee



- Support New Initiatives of high strategic importance and bringing long-term benefits to the Council. Owner: New Initiatives Committee

### **SG 6.3: Marketing and Communications**

#### Short Term Actions

- Develop a marketing and communication plan.
- Examine our communication strategy vis a vis – broadcast tools (e.g. YouTube) and dialogue-based tools (e.g. Discord, WhatsApp). Evaluate purpose, approach, and whether we have the expertise required.

#### Long Term & Continuity Goals:

- Expand Social Media, as appropriate, to connect with the Council Participants. Owner: Publicity Committee
- Use advanced digital marketing tools to promote the Council's activities. This has already been in use since 2022. Owner: Publicity Committee

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